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THE SPHERE

Vol. CLXVIII No. 2197 WITH WHICH IS INCORPORATED THE GRAPHIC FEBRUARY 28 1942

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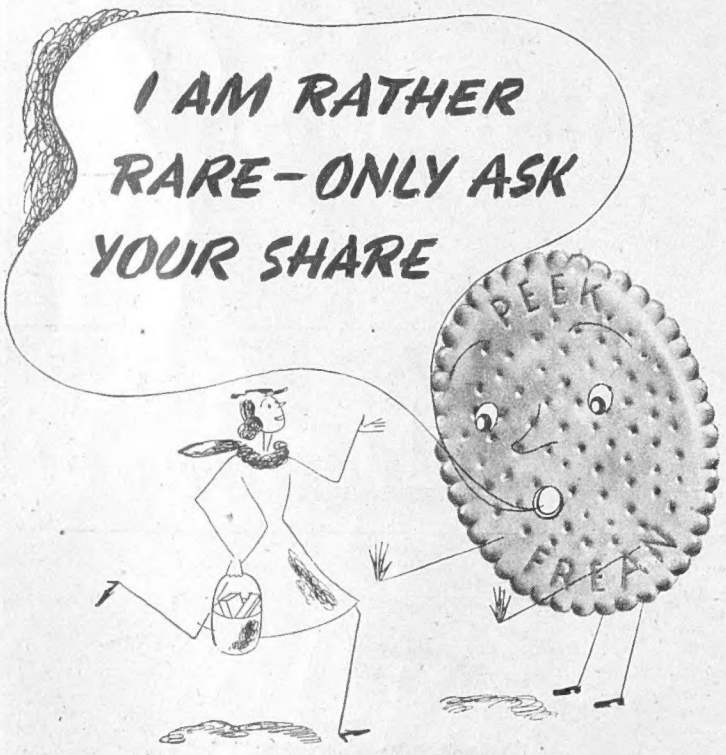

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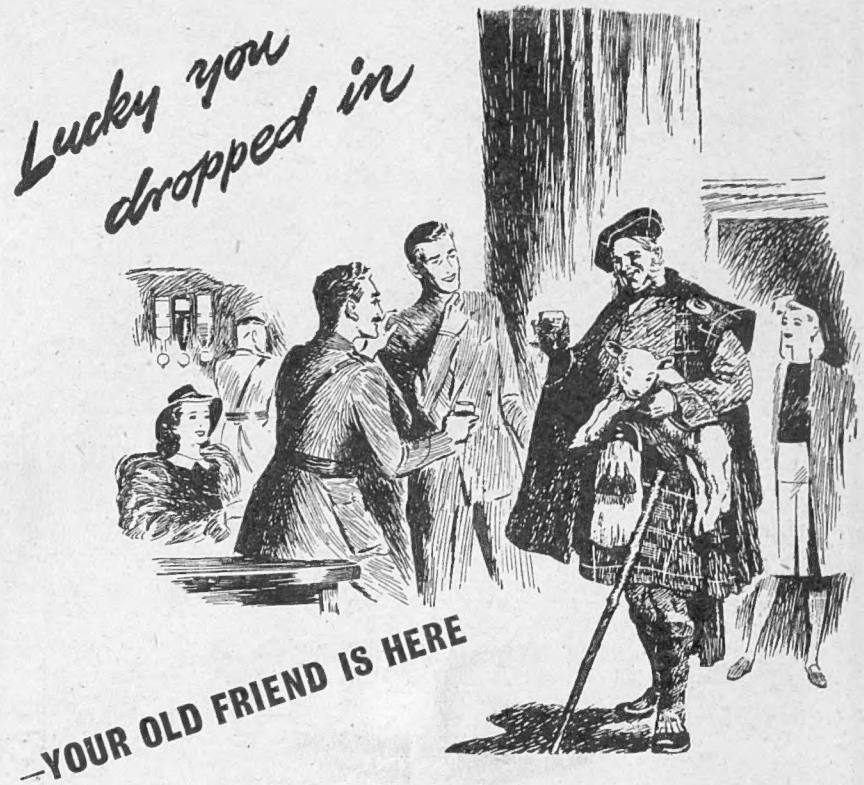

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M 28

Volume CLXVIII No. 2197 The SPHERE, London, February 28, 1942

THE SPHERE

With which is incorporated "THE GRAPHIC"

The Empire's Illustrated Weekly

London, February 28, 1942

AFTER EIGHT MONTHS OF WAR IN RUSSIA: A CAVALRYMAN OF THE RED ARMY ON THE TRAIL OF THE RETREATING GERMAN ARMY. The tank in the ditch was abandoned by the enemy in their withdrawal

On Monday last—February 23—the twenty-fourth Birthday of the Red Army was celebrated throughout Russia. The Soviet has now been at war with Germany for a period of just over eight months: after the first reverses, due to Russia's unpreparedness, the Red Army is now hitting back at the Germans with such vigour that M. Stalin was able to declare in his Order of the Day that the "surprise element" was at an end and that Germans and Russians are now fighting on even terms. The picture above might almost be taken as an epitome of conditions on the Eastern Front to-day! First, there is the weather—the bitter, appalling cold and snow which have reduced parts of the German Army to impotence or insensibility; secondly, the failure of the mighty mechanisation of Germany to conquer the indomitable Russians, despite the size and ferocity of their tank spearheads; thirdly—and most important—the emergence of the new and splendidly equipped formations of the Red Army, ready to do battle with unabated vigour. The horseman in the above picture is one of those who have already helped in the precipitate flight of the German Army from whole sectors of the invaded country

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A WAR NEWSLETTER —No. 130

1, NEW OXFORD STREET, W.C.1.

"Once More Unto the Breach."

—The Premier has met the constructive criticisms of a united nation generously, fairly, with good humour and with dignity. His re-formed War Cabinet was not built at the pistol point of Parliament. This time "it has *got* to be all right," for the pages in our copy-book accidentally or negligently blotted have mounted up, and the book's capacity is limited. With restraint and sympathy, goodwill and mutual understanding of all the difficulties, and with 100 per cent. energy from now onwards from 100 per cent. of the nation, I doubt not that, under God, it *will* be "all right." From his experience of the worth of his available Ministers during 130 weeks of war, Mr. Churchill has seeded his protagonists and fitted them into the posts best suited to their individual qualities. It is up to us to give them our confidence, our encouragement and our loyal co-operation, which the Premier himself has never asked in vain.

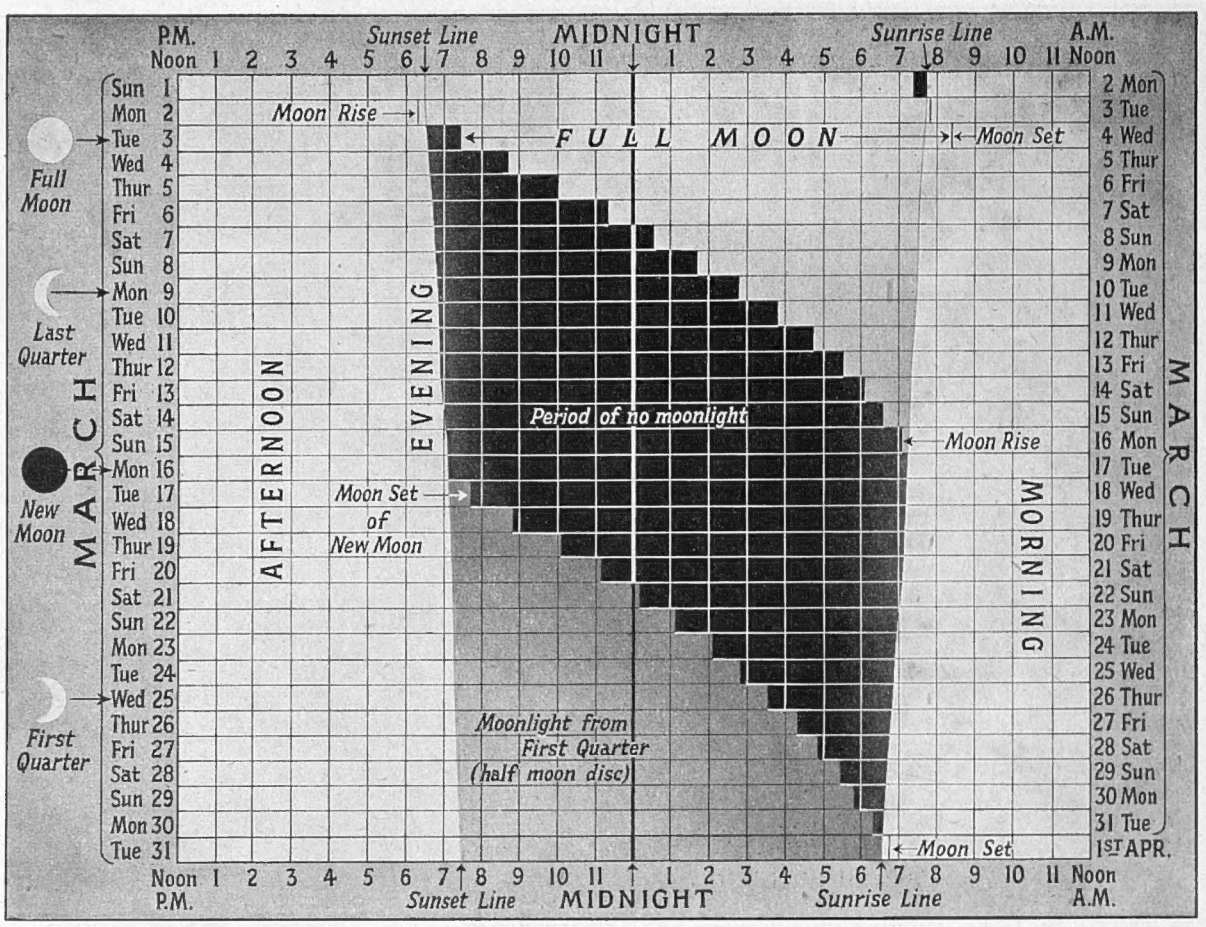
And Another Full-Dress Debate.—Another long-drawn-out and full-dress debate followed the announcement of the re-formed War Cabinet. During the first of the very recent full-dress debates, the Nazi Fleet was raising steam in Brest Harbour, and the Japanese were picking the ripe plum of Singapore, while a substantial percentage of Ministers and M.P.s got their chance to indulge the luxury of oratory, criticism and debate. It may be open to question if our position in the eyes of the world, of our Allies, neutrals and the enemy, was improved by that Confidence Debate. It was no time for spilling words. The crisis was, and is, too grave and imminent. The Government has been re-formed; complacency and false pride and security have taken a terrific jolt; we have as a nation suffered a very bitter humiliation, and, please God, these lessons have once more called forth our noblest national qualities. If henceforth, while the imminent peril lasts, the nation will accept the principle that Victory depends not on 45 supermen, but on 45,000,000 supermen, all will be well. "Only our own folly can rob us of ultimate victory" But it will elude us, if we embrace any compromise of that principle. That principle implies 100 per cent. unity, 100 per cent. endeavour, 100 per cent. sacrifice, 100 per cent. restraint, 100 per cent. realisation of our own weakness, and strength, and of the difficulties, as well as the achievements, of our civil and military leaders, of our armed forces and departments of State. One word as to that 100 per cent. restraint. That implies, above all, a rationing of the luxury of words; words of criticism intemperate or insecurely based; words of excuses for our failures; words to flatter our wishful thinking; words of prophecy, of palliation, on the air, in the Press, in Parliament and in the street. The nation has gone through mental suffering and national humiliation too bitter to leave any further excuses for half-measures or illusions or differences of opinion.

The Worth of Parliament To-day?—In one particular, I will indeed offer an excuse for the nation, or for that part of it which, for one reason or another, has withheld so long its fullest effort. I am not sure but that the nation has had its name used without warrant by some of its representatives in Parliament. I am not certain it is the *nation* which demands or approves these full-dress debates spread over vital days. Members of more than one of the old parties have demanded them in the name of the nation, in the name of their constituents and in absolute confidence, and it has been on that warranty that the Premier, a lifelong believer in the prime importance of Parliament in the preservation of democratic liberties and rights, has conceded them. In normal times no Englishman could dream of questioning that importance of Parliament. These are not normal times, nor is this Parliament, as at present constituted, normal. Enormous changes in world politics and domestic politics have affected our political opinions. Some of us may have moved to the left, some to the right; many of us have scrapped the old political labels *in toto*; the men we elected to Parliament were elected in a world which is now as dead as Queen Anne's world For how many of us in the past two years has not the channel for such ventilation been rather *the Press* than Parliament! The point is this: Is it the public or is it Parliament (speaking without a recent mandate in the public's name) which demands these costly debates in a crisis of war? Costly, because from them the public derives all too little of that information which it assuredly craves; costly, because from it our enemies and wobbling neutrals gain too black a picture of our failures, our bungles, our present anxiety and our (apparent rather than real) disunity; costly, because these debates seduce from their essential jobs Ministers who have positively no time in which to indulge the luxury of words. For myself I am convinced that the British Parliament, for a variety of reasons (some of which are beyond its control) has of late used without any mandate the public's name to demand from the Government that for which the public has not asked. And I am convinced that the British Parliament (in normal times the first safeguard of our charter of liberty) has indulged liberties of its own inexcusable in this crisis, and has achieved far less constructive reform than has been achieved by the will of the people working not through Parliament but through the Press.

The Black Week.—It has been the fate of Englishmen in late middle age to live through a very large number of black weeks in their country's history in times of war, from those at the end of 1899 onwards; and the blackness has grown in intensity as the weapons of war have developed in ferocity and the scale of war has enlarged. We most of us of late have tried to derive comfort from this reflection, but upon that slender comfort a cold voice of logic always broke in, whispering "Somebody has to lose in every war; the side which makes the greater number of mistakes." The idea that this war *can* be lost by the Allies, if the new leaf of one hundred per cent. unity, determination, sacrifice and effort be not now instantly turned, has just struck America, we are advised. And there is a high percentage still in England into whose brains that idea might usefully percolate. In both countries the form of Government accounts in some measure for the slowness with which we accept unpalatable facts, and for the fury of public criticism if things go wrong. Both countries have, time and again, muddled through to salvation after wasting vital months and even years in the old peacetime game of word-spilling, or with half the available heads buried in the warm sands of comfortable traditions. When Mr. Churchill broadcast to the nation on Sunday, February 15, I do not think there was a single Sunday newspaper in any house in the land which had not turned its guns on the Government's conduct of the war and on its composition and weaknesses, and had not forewarned its readers against any longer accepting Mr. Churchill's glorious oratorical periods as an "excellent substitute" for vital reforms and strenuous actions. It was obvious that Mr. Churchill foresaw that general reaction; for his broadcast was entirely devoid of oratorical frills and fireworks and noticeably different from any other he has given us during the war. On many of us it must have had what may have been an oblique effect. We still accept it that there are excuses on both sides; excuses for our disasters and our failures and our shortsightedness, excuses for wild and unrestrained public criticism. Such criticism has been the very life-blood and technique of the Ministers who are running this war, during their periods of Parliamentary opposition. But to-day two novel and tremendous truths have come home to us in our supreme danger.

The Sum of Human Misery.—Some robust critic (of the stock which breeds those young women who pass out white feathers to V.C.s in mufti) will tell me that my caption is defeatism. In point of fact, there is no better stimulus to a national determination to win this war than periodically to assess the "astronomic figures" of the human misery it has already caused to the combatant nations and the whole world. With all allowance made for the notable advance in weapons of torture and butchery and for increases in populations, there is no other period of world war in all history (not even the Thirty Years' War) which can compete Mr. Butler, in his *Lost Peace*, put very convincingly the essential difference in the spirit in which Germany entered this struggle and in which she entered the war of 1914. In the first World War, it was almost 100 per cent. enthusiasm. Middle-aged Germans knew nothing of the double-edged quality of the unsheathed sword. In 1939 half the German nation remembered that double edge, and only doped Nazi youth was enthusiastic. The position in 1939 was this: all so-called civilisation, save only one nation entire (Japan) and two nations enslaved by minorities (Germany and Italy), had at long last learned the inexorable truth that nothing but misery alike to victor and vanquished can come out of war, and that nothing could justify war but the defence of the ultimate moral principles and ultimate national survival. (Even Britain had not learned this lesson at the dawn of the twentieth century.) On the long view, there is comfort in the knowledge that, when this war is over, the lesson of war's imbecility will be branded on every soul surviving on earth for at least fifty years. What of Germany in a period of revived hope and renewed truculence? Germany is not breaking; no wishful thinking can pretend that. But German hearts are breaking. German misery and loathing and fear of war are as great as any other people's; in Germany, as in Russia, the hideous butchery has already taken three out of four sons of thousands of families, and the end is no nearer; it is infinitely more remote than at any other period of that nation's estimation. In Italy, the cardinal truth was driven home more than a year ago, and to-day, only Japan has yet to learn it.

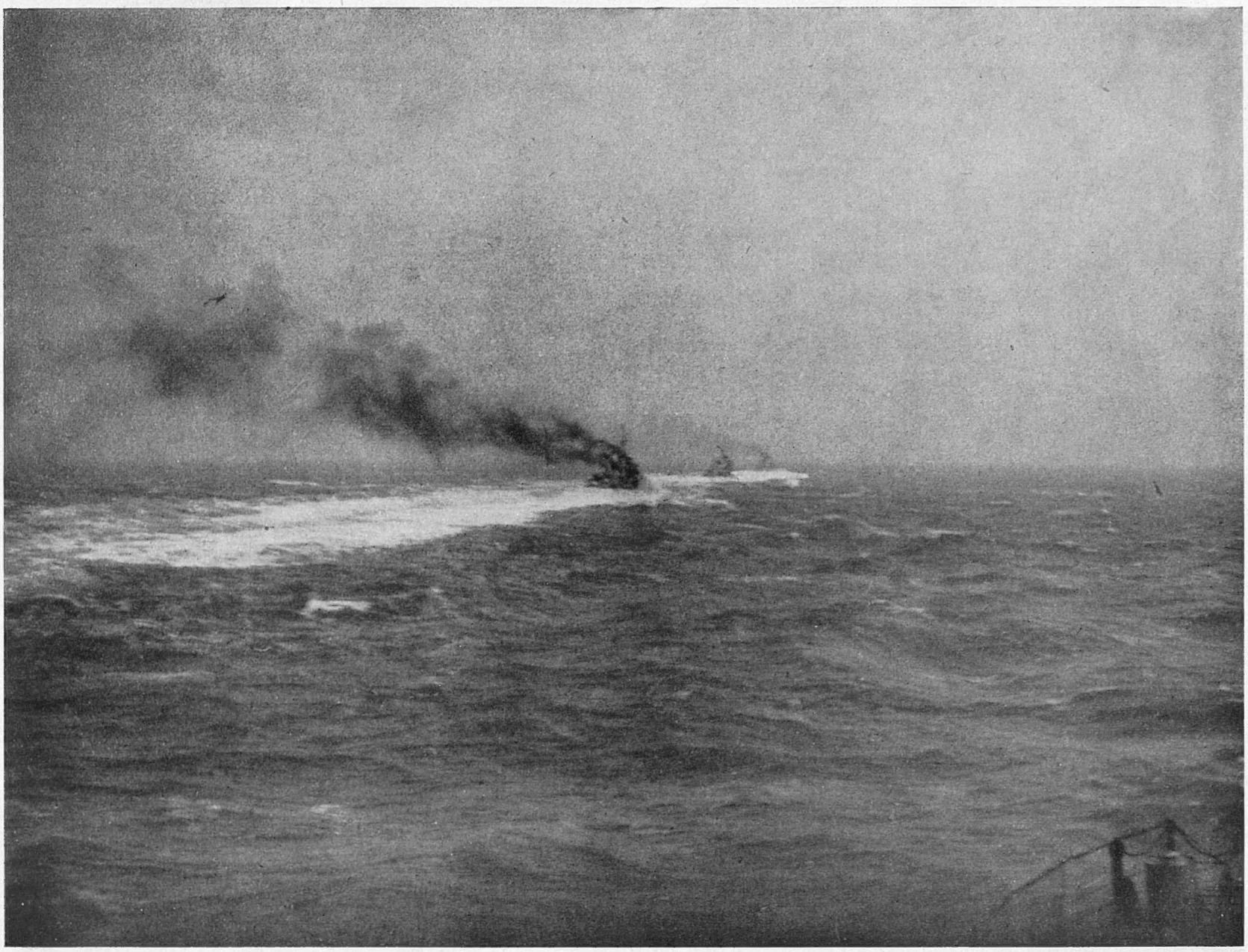
THE OLD STAGER



A MONTH OF MANY MOONLESS NIGHTS—"THE SPHERE'S" MOON-CHART FOR MARCH

The full moon occurs on the night of the 3rd, rising just before 7.30 p.m., and setting after 8.0 a.m. on the morning of the 4th. The waning moon then sets later each night, reaching the form of the last quarter on the night of the 9th-10th. In the middle of the month the night hours will be totally dark, with the new moon on the night of the 16th. Nine nights later, on the 25th, the first quarter will be apparent, and the waxing moon will illumine the sky with greater intensity and for a longer period each successive night. It will be noted that at the end of the month, the sun rises an hour earlier and sets an hour later than at the beginning

A limited number of these charts will be supplied free of charge on application to the Publisher, "The Sphere," Commonwealth House, 1, New Oxford Street, W.C.1, but 2½d. in stamps must be enclosed with the application

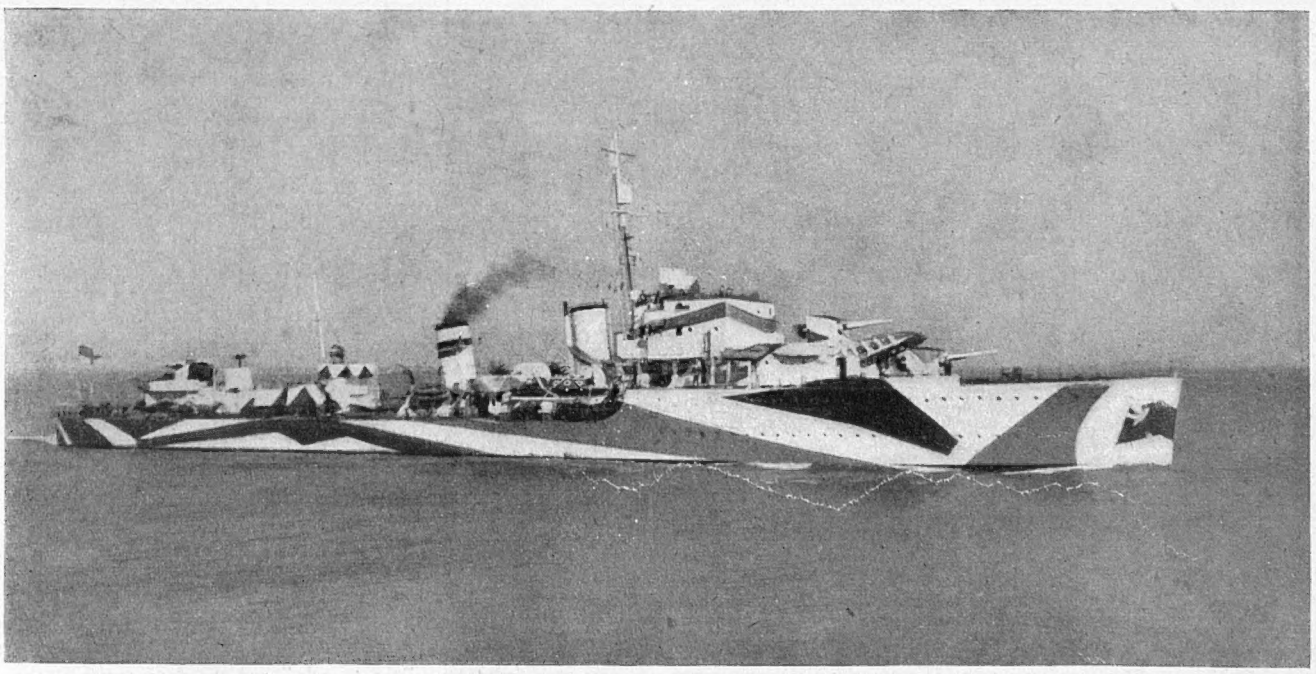


H.M.S. "WORCESTER" AND OTHER DESTROYERS STEAMING INTO ACTION OFF THE DUTCH COAST IN THE GREAT CHANNEL BATTLE. During the action against the "Scharnhorst," "Gneisenau" and "Prinz Eugen," H.M.S. "Worcester" went in to within one and a quarter miles of the enemy before firing her torpedoes: she was hit and set on fire, but reached harbour safely

THE DESTROYERS STEAM OUT

To Engage the Three German Warships in the Channel

When it became known that the *Scharnhorst* and *Gneisenau* battleships and the heavy cruiser *Prinz Eugen* were escaping up the Channel, the only naval forces we could employ were destroyers and smaller vessels. The destroyers were led by Captain Mark Pizey, and included his *Campbell* and also H.M.S. *Worcester*. The picture reproduced above is one of the few which now exist to show the gallantry of these vessels in engaging capital ships of such tremendous fire-power. In the Admiralty report it was stated that "our destroyers took advantage of a rain squall to press the attacks home. Owing to the low visibility and the heavy fire to which the destroyers were subjected, it was not possible to be certain of the result of the attack. . . . Casualties in our destroyers were not heavy. When last sighted, the enemy, which had become separated, were making for the ports in the Heligoland Bight." *Worcester*, which took part in the action off the Dutch coast, got to within very close range of the enemy, and was consequently damaged, although she succeeded in reaching port safely. She is of the "Modified W" class and was completed at Portsmouth in 1922: she has a displacement, with full load, of 1,500 tons and carries a complement of 134. Her armament consists of four 4·7-in. guns, two 2-pounder pom-poms, and smaller guns. She has an effective speed of about 31 knots.

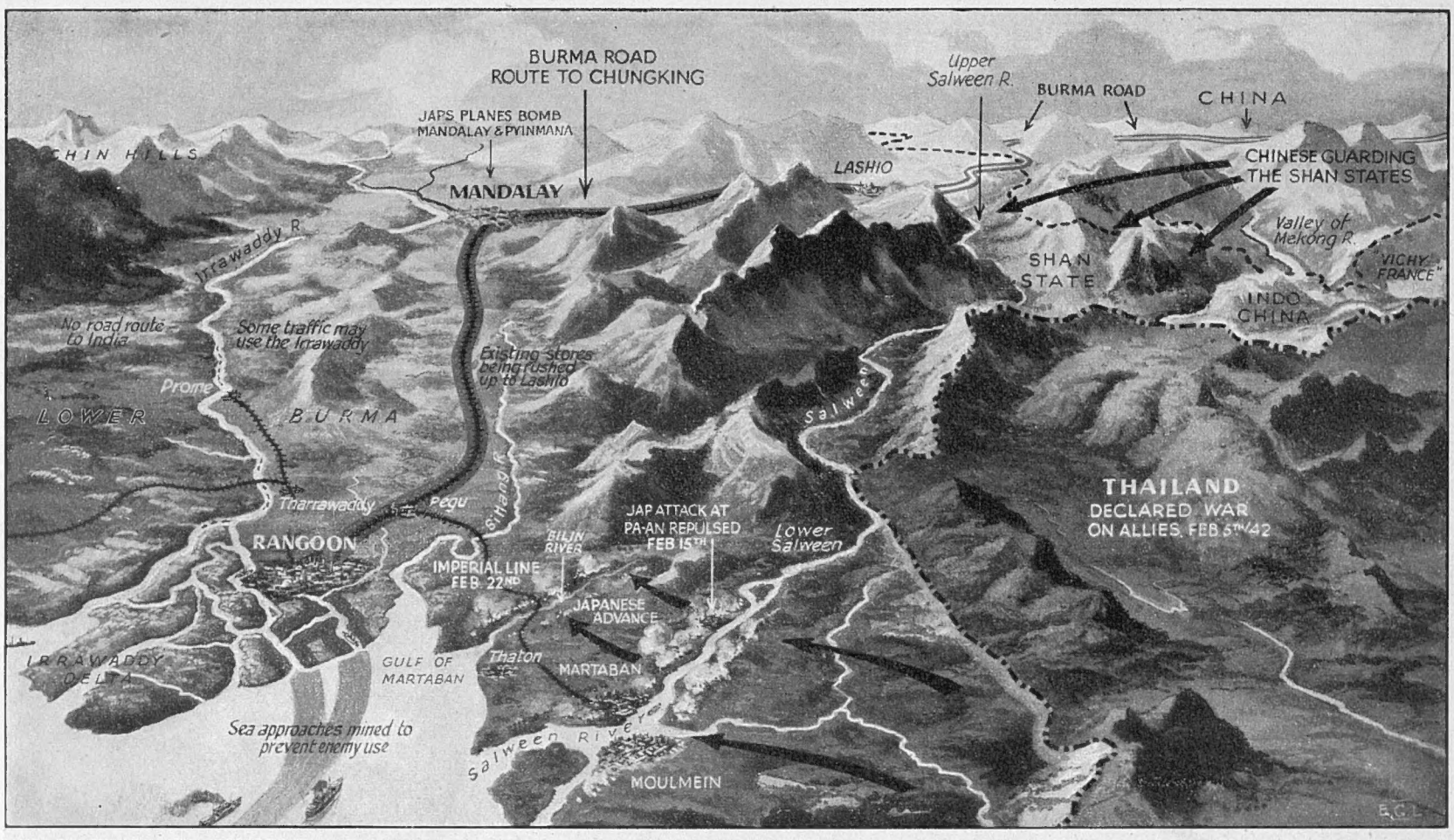


A FINE EXAMPLE OF "DAZZLE-PAINTING" ON A BRITISH DESTROYER: H.M.S. "Hesperus" in her wartime camouflage: In a recent issue of *The Sphere* we published an article dealing with camouflage. Here is a picture of a fine wartime effort as exemplified by the destroyer *Hesperus*. At sea, and from a little distance, it would be exceedingly difficult to recognise this warship in her coat of "dazzle" paint

THE MAN WHO LED THE SWORDFISH ATTACK — Lt.-Com. E. Esmonde, D.S.O.: Of the eighteen men who flew their six Swordfish torpedo planes straight into the three German vessels, only five returned—three of them seriously wounded. Lieut.-Com. Esmonde (who had only received his D.S.O. the day before from the King), found a gap in the terrific curtain of fire and went straight in. Behind him came Sub-Lieut. Kingsmill, followed by Sub-Lieut. Rose, who had as observer Sub-Lieut. Lee, the only man to escape uninjured

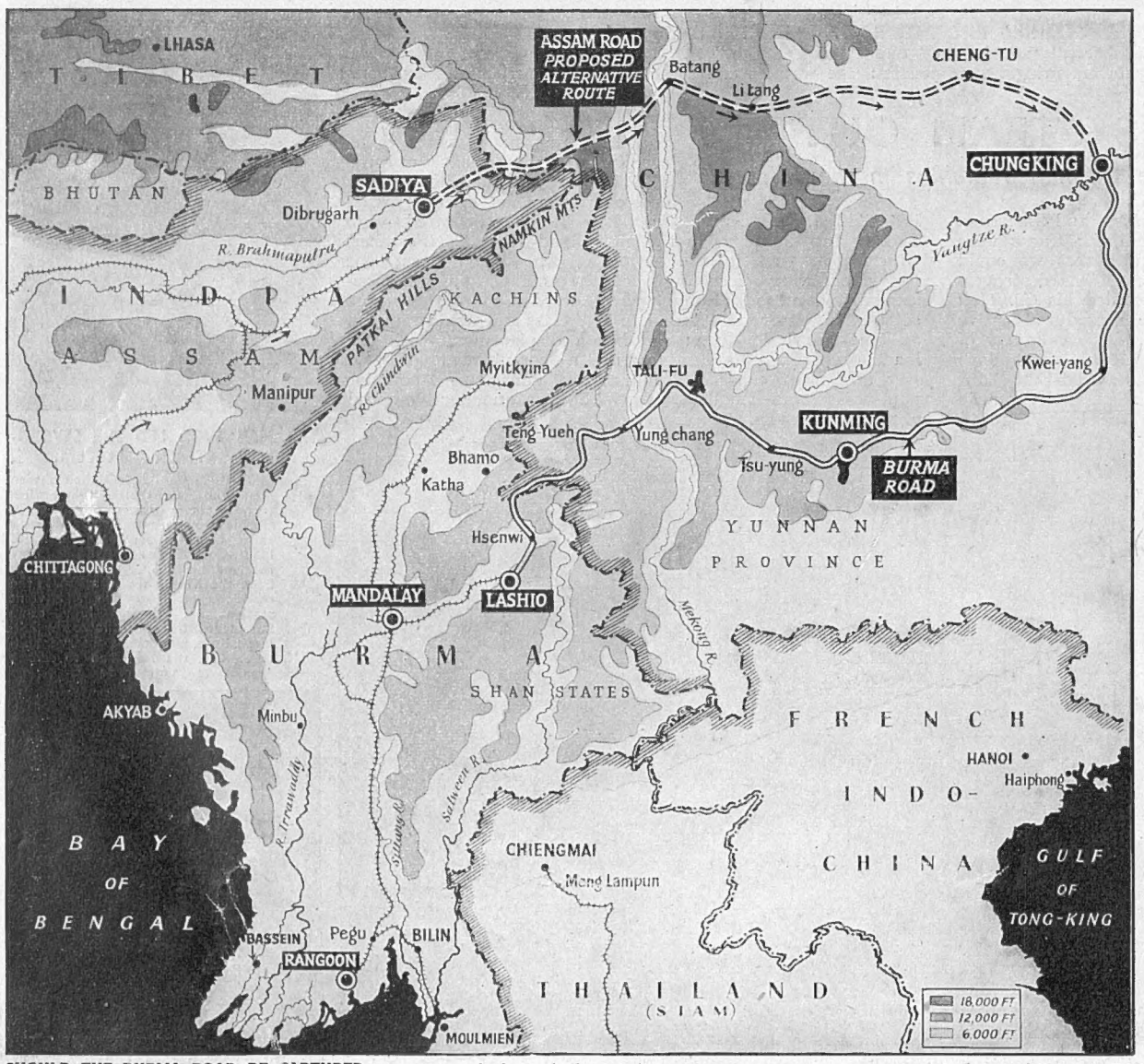
The only member of the Swordfish crews to escape uninjured—Sub-Lieut. E. Lee

THE INVASION OF BURMA—and the Threat to the Burma Road



THE APPROACH TO RANGOON: THE JAPANESE THRUST INTO LOWER BURMA ACROSS THE SALWEEN AND BILIN RIVERS, and the enemy drive to Pegu, which commands the railway to Mandalay and the Burma Road—*Drawing by E. G. Lambert*

During the later stages of the attack on Malaya, Japanese forces were getting into position for a thrust against Lower Burma and the sea entrance to the Burma Road. Throughout the early part of February the thrust developed into the Salween River area. Moulmein, on the south bank of the wide river, was captured, and for some days the Japanese had difficulty in effecting a crossing on the lower stretches, turning northwards to Paan, where the narrower stream gave easier conditions for the attacking side. Martaban was turned, after the stiff resistance put up by the British Imperial forces at Paan had given way to the increased Japanese pressure during the middle of the month. The operations of the Japanese were rendered less easy than elsewhere during this period owing to the spirited defence put up by the R.A.F. and the A.V.F. (American Volunteer Force), both forces dealing heavy blows at the Japanese attack from the air. Another stand was made on the small Bilin River, but the pressure of the Japanese forces continued, and in the third week of February the situation with regard to Rangoon was serious, so much so that the approaches by sea were mined and the port virtually given up as the sea doorway of the Burma Road. How vitally the Japanese advance threatened this famous highway can be seen in the drawing above. If Pegu were seized by the enemy, the railway line to Lashio would be cut. Big accumulations of stores were hurried northwards in view of the immense threat to the lower section of the route.



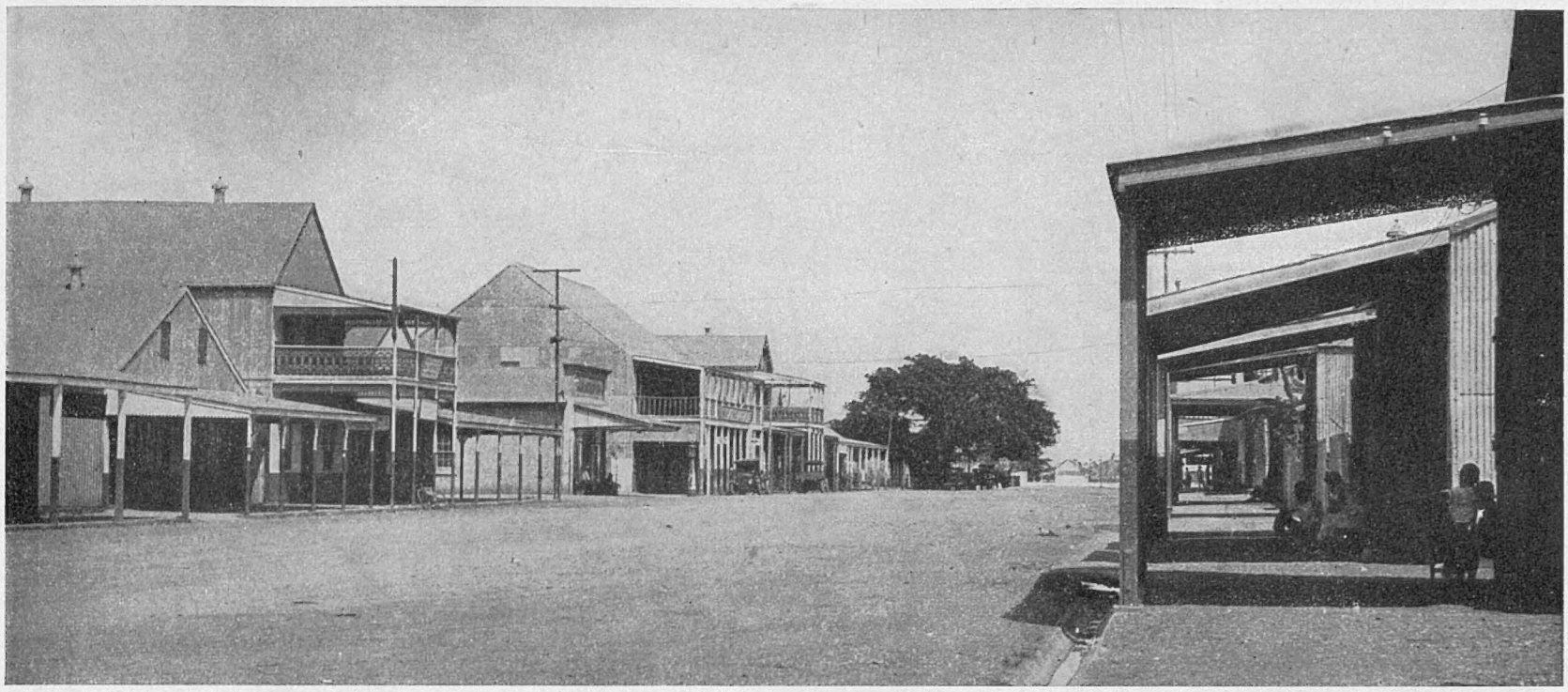
SHOULD THE BURMA ROAD BE CAPTURED, a new road through Assam is ready to come into immediate operation from India to China's wartime capital. It begins at Chittagong and runs through Sadiya to Chungking

The New "Burma Road"

The Japanese threat to Lower Burma, where the city of Rangoon stood as the sea-gate of the Burma Road, was sufficiently obvious a few years ago to set the British-Indian and Chinese authorities on the task of providing an optional route, should the land, sea and air threats to the famous Burma Road prove too serious. The visit of Generalissimo Chiang Kai-shek to India was in great part concerned with discussions about the expediting of the work of construction over the western, or Assam, portion of the new route. The exact course it will take has not been made public, and its remote position, coupled with certain measures taken by the authorities, has prevented casual or prying eyes from viewing the progress of the work.

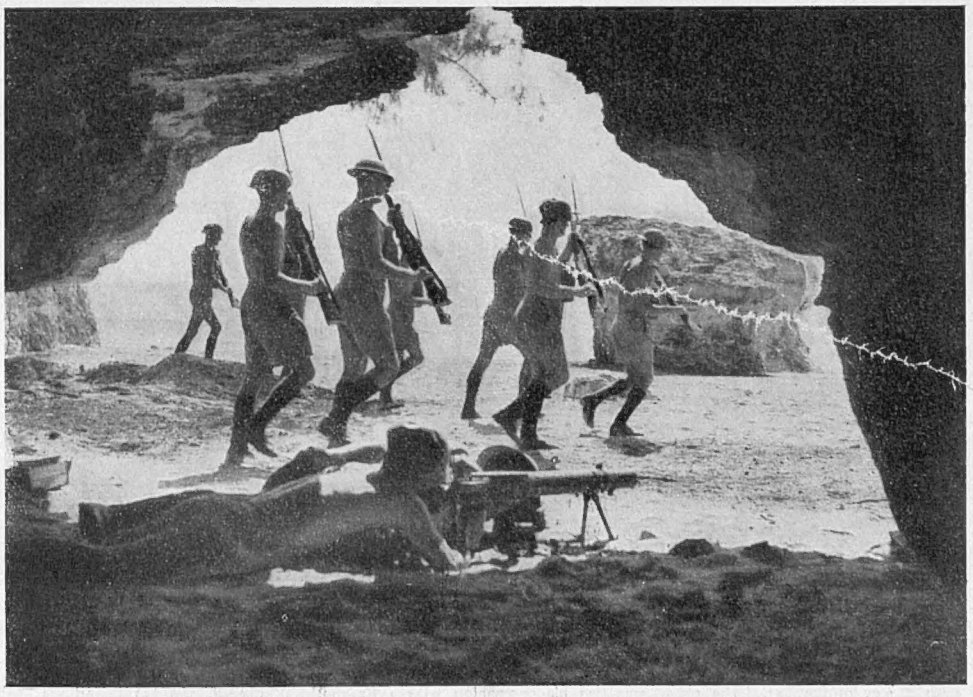
A glance at the annexed map, however, will show the approximate area which the road will have to pierce in its long and arduous journey to Chungking. The existing route, as is well known, runs via Lashio, the Burma railhead, via Yung-chang, Tali-fu and Kunming. Other branches of the Burmese system, it will be noted, run further to the north of Lashio, and for a time a certain amount of traffic may pass up the Irrawaddy to Bhamo, whence ancient caravan tracks extend eastwards into Yunnan. Northward of this region of Upper Burma lies a district of high mountain range, the southernmost spurs of the magnificent range of the Himalayas. It is obvious from a survey of their positions that certain routes are more feasible than others. Altitudes run up to 10,000 ft. in various places. It is generally presumed that the 2,300-mile route will begin at Sadiya, on the banks of the mighty Brahmaputra, and will proceed in an easterly direction towards the desired goal, by way of the Nankiu, mounting the region known as "the triangle" and the deep gorges of the Salween and Mekong. Whether the new route will link up with the old remains to be seen.

THE FIRST ENEMY BOMBS FALL ON AUSTRALIA



ONE OF THE STREETS IN DARWIN, the new Naval and Air Base on the North Australian coast, where the Japanese have carried out their first air raids

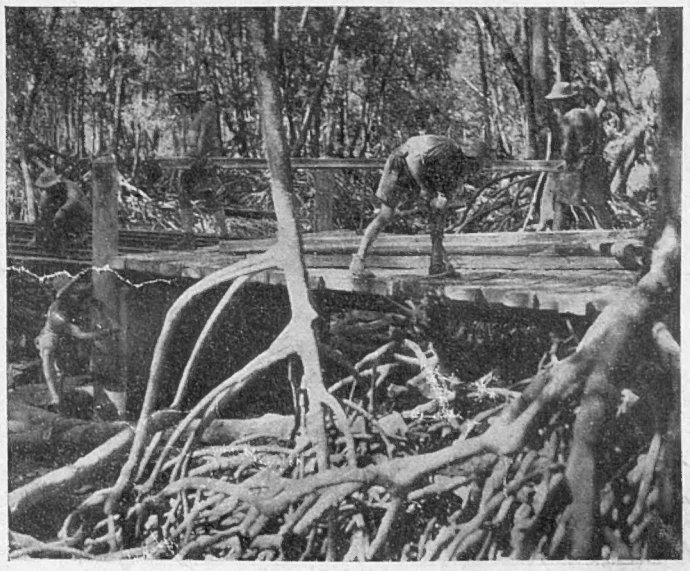
ON THE SUPPLY ROUTE THROUGH THE HEART OF THE AUSTRALIAN "NEVER-NEVER LAND": A lorry convoy passing the Devil's Marbles on the newly constructed road which connects the railheads at Alice Springs and Birdum to lonely Darwin on the North Coast



ON THE BEACH AT DARWIN: Australian soldiers defending the caves along the shore against possible surprise attack by the Japanese from the sea

Darwin is a vitally important link in the East Indies defence chain: its importance has already been recognised by the Japs, who have subjected it to bombing from the air—thus making of the Port the first place on which enemy bombs have fallen in Australia. This little tropical town has now become an air, naval and military base of considerable value to the Empire, especially since the fall of Singapore. At Darwin are stationed A.I.F. troops, as well as air and naval establishments and strong garrisons of permanent and home-defence soldiers. Hundreds of miles of strategic roadways have been carved out of the erstwhile bush; and secret defence areas now exist, where tank traps, wire entanglements, gun emplacements and pill-boxes extend from the tide-level to the Fixed Defence Lines which are miles inland

IN THE NEIGHBOURHOOD OF DARWIN: Husky Australian woodsmen felling trees for bridge-building

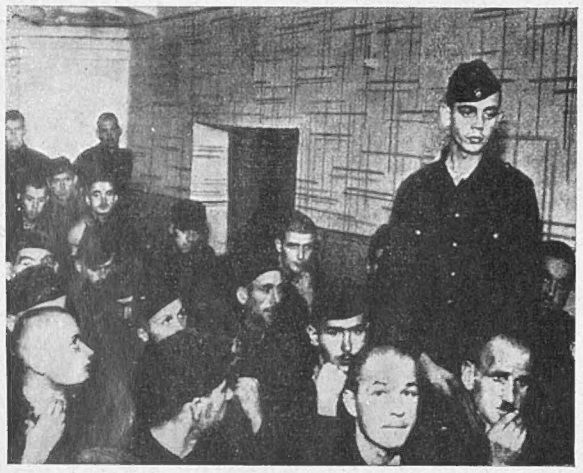


A BRIDGE BEING BUILT OVER A SWAMP in the vicinity of the Port, for the freer passage of military supplies

FREEZING GERMANS on the RUSSIAN FRONT

THE SNOW-COVERED STEPPES OF RUSSIA, where tens of thousands of Germans are now freezing in the icy blasts from the Urals : A column of the enemy, with their mechanised transport, comes to a halt in the bleak, wintry countryside

The Germans now say that—all along—they had anticipated bitter conditions in their Eastern plans : it is obvious, however, that they never visualised the Russian winter as being so severe. Or else, they had planned on warm quarters in Moscow, Leningrad and the Caucasus ! There can be no doubt now that the army—accustomed to the more lenient weather of Germany—has suffered terribly during the past weeks, and that thousands of soldiers have lost their lives through the intense cold or been maimed by frostbite. Apart from the actual cold, however, the home-loving German soldier has been complaining bitterly of the grey skies and wide, empty spaces of the vast steppes



GERMAN WAR PRISONERS IN RUSSIA PROTEST AT THE GERMAN TREATMENT OF SOVIET PRISONERS

A number of German war prisoners in Russia have just addressed to the International Red Cross a protest against German brutalities. "We German war prisoners confined in Camp No. 78," runs the document, "must confirm the fact that war prisoners and citizens of the Soviet Union are very often subjected to horrible outrages by representatives of the German Army and even shot by them. . . ." The protest is signed by sixty prisoners. The above picture shows a scene in Camp No. 78 in Russia as Hans Below, of Frankfurt-on-Main, Private of the 459th Infantry Regiment of the 251st Division, addressed his German comrades before the signing of the protest

GERMANS SIGNING A MESSAGE OF PROTEST to the International Red Cross Committee at Geneva

THE RESULT OF GERMANY'S VAST JUMBLE COLLECTION, when everyone was urged to contribute warm clothing for the relief of the German Army in Russia : Throughout the past few weeks, the German nation (and especially German women) have been exhorted to bring out of storage any, and every, thing which might prove of use to the frost-bitten soldiers of the Reich on the vast, wintry steppes of Russia. This picture shows one of the results—two German soldiers in their latest winter fashions ! One has bound his feet with cloth, wears a kind of pinafore over his uniform, and tops it all off with a sort of fur boa. The other emulates his companion with a Czechoslovak overall, and has bound his head with a number of scarves. Despite all these measures, the Germans are still suffering severely in the snows and icy winds !

THE YOUTH OF RUSSIA: Typical of the young men, and the up-to-date equipment, now coming into service against the German invaders

"A TANK PARTY OF GUARDS BEFORE THE ATTACK": A picture sent by radio from the advancing front line in Russia which illustrates the fine physique and high spirits of the Soviet Army

RED ARMY PARACHUTE NURSES READY TO TAKE OFF FOR A FLIGHT TO THE FRONT—A picture from the Russian film, "100,000,000 Women," to be released by the Ministry of Information

A PARACHUTE NURSE OF THE RED ARMY leaving the aircraft: A new phase in Nursing history in wartime is the dropping by parachute of intrepid nurses of the Soviet forces. Carrying medical supplies with them, these brave women land in those front-line zones where their services are most needed. A film illustrating their work is soon to be released

A MEDLEY OF STRANGE COSTUMES WORN BY GERMAN SOLDIERS: The man in the foreground wears white peasant trousers, such as are usually worn in Poland; another wears what appears to be a nightshirt over his overcoat; all are queerly clad for the correct and precise German army; and all are obviously affected by the great cold! All about lies the snow and ice of the Russian winter

A PICTURE FOR HOME CONSUMPTION? The men in this picture are Italian soldiers in the Donetz region of Russia. It would appear as if these men are engaged in some particularly hazardous adventure on the ice. Actually—just outside the picture to the left—is a camera-man, making careful films of the whole operation. Doubtless, in time this picture will appear in the Italian newspapers as evidence of the gallantry of the Italian divisions in Russia: actually, when this picture was taken, there could not have been a Russian soldier within miles!

THE ISOLATIONISTS CHANGE THEIR CLOAK... But Not Their Spots!

From "Isolationists" Urging that America Do Nothing in the War, They Have Now Become "Indignationists" Professing to be Enraged that So Little Has Been Done to Encourage War-Mindedness!

By FERDINAND TUOHY

DIRECTLY after Pearl Harbour the news went forth that there was no such thing any more as an American Isolationist. The Lindberghs, the Wheelers, Nyes, Cudahys, Hearsts and Macormicks—all were rallied in single purpose behind the Administration's policy towards war declared upon the Union from three directions: Japan, Germany and Italy. After a New York dinner-party, attended by thirty-five "mystery" guests, Lindbergh, the shining light of Isolationism, offered his services to the nation. That surely was sufficiently indicative of the chastened new trend?

A few short weeks have shown that President Roosevelt is not going to have it as easy as that—in fact, there is a likelihood that he will have greater difficulty in maintaining national unity than Woodrow Wilson experienced in 1917-18.

The former Isolationists took a brief while to sort out events and themselves. Then they saw their way. The idea would be to have no label at all but, figuratively, to wrap themselves in "Old Glory" and to express righteous indignation at everything that should go wrong or that could be represented as not—viewed jingoistically—strictly in the American interest. I see the American papers call them "the Indignationists." Indignation that the U.S. Government should allow such "unwarmindedness" as that which lead to the Hawaiian catastrophe; indignation that United States troops should be sent to Ulster instead of to MacArthur; more indignation at Singapore, and that only "devil-may-care Dominion and Colonial troops seem to fight Britain's battles."

The effrontery of this attitude leaves one almost agasp. If any people in America are responsible for that nation's "unwarmindedness" and for its lack of preparation, then they are the former Isolationists who did their utmost through months and years to encourage the "it can't happen to us" mentality, to fan the easy going, complacent life for which the refrigerator became the symbol, and to put over the falsehood that the President's warnings of imminent danger were "phony." But these men are banking on the notoriously short memory of the American multitude.

The above is not prying into the affairs of other people. This sly donning of a new cloak over old spots by men bent on a world policy quite different from that professed, however vaguely, in the Atlantic Charter, is clearly our affair in part, especially inasmuch as a good deal of the ammunition used is coming from attacks on the British. What has happened basically is this: the Isolationists have become the Peace-by-Negotiationists. It would be misleading to call them so many appeasers. They are American Fascists who want to end the war by doing a deal with Hitler which would leave Fascism in the ascendancy all over the world, while perhaps giving the immediate idea that such was not the case, but that much of the democratic way of life had been preserved.

The "Indignationists" are already in luck, for their underground campaign has been launched in a year that will elect a brand-new Congress and a one-third new Senate. Sad to think that politics will soon be all over the United States again (one seems barely to have finished with one form of election, presidential or Senatorial, when another blows along). And it seems that the heirs of Lindbergh intend to try and camouflage themselves as Republicans. One does not yet know where the silent ex-Colonel stands, but Mr. Thomas Dewey, a leading Republican who was runner-up to Willkie for the 1940 nomination, has few illusions about what lies ahead.

"There already is a set in Washington and other cities," he says, "who are scheming to end the war short of military victory. They are waiting for the time to come out into the open with plans for a negotiated peace. They may all try to creep into the Opposition (Republican) party, which they may seek to use to achieve their cowardly ends. Here we have but one course. Every suggestion of compromise must be rejected. There is no room for a difference on this score. We shall wage this war to total victory. We shall wage it to a victory so complete that Germany, Italy and Japan shall not again have power to disturb the peace of the world."

Any negotiated peace envisaged by the ex-Isolationists would be extensively to Britain's detriment, which accounts for the main gunning being directed against the British, who are contemplated apart from the Dominions. The governing idea is to weaken British world claims in the minds of the American people so that as many as possible will come to reason: "If these doggone Limeys gave up parts of the world which they can't defend themselves, which they grabbed in the first instance, and which they don't rule in the democratic spirit, why, I guess we could square this business and start afresh." The fatal flaw, that to let Hitler into parts of other peoples' Empires would be to risk a would-be world-conqueror on America's own doorstep, is glossed over with talk of physical guarantees—as if Hitler is the kind of person to whom one could in safety say, "Thus far and no further!"

Much play is being made at Britain's expense on the subject of India. Why is not democratic self-government given now to India? Isn't it the chief thing Britain professes to be fighting for? The usual excuse advanced by Britain, that widespread anarchy would ensue, particularly from Muslim fighting Hindu, is presented as a piece of hypocrisy. Then there is Ireland. The current tactic is to express indignation that American troops should be sent to Ulster instead of to the Far East, where a handful of Americans have put up the best fight yet against the Japanese, aided by Filipinos who were due for their freedom in a year or two ("why don't the British give similar freedom to the Indians and have them fighting alongside the Chinese?" So easy is it as that!).

"Hirohito is the enemy-in-chief of America, not Hitler! Let us concentrate on Japan and treat the war in Europe as a secondary matter. Let us withdraw our force from Iceland. And why did we ever part with those fifty destroyers which would be so valuable now in the Pacific?" The "Indignationists" are thinking up everything they can to lessen Anglo-American co-operation. At the same time they conveniently forget such things as the new bases protecting the Panama zone and wider American seaboard which the United States obtained for those somewhat dated destroyers. An especially pernicious and hitherto sure-fire lie is that Britain's man-power has largely idled in the United Kingdom while men from the Dominions and Colonies have been doing the fighting. Goebbels has been pumping in this myth by radio for over a year, but only the other day did we deem it worth bothering about. The British Press Service in New York showed that something like 70 per cent. of all troops engaged anywhere in fighting have been from these islands, and total losses on a higher proportion still.

I remember writing an article in THE SPHERE round 1936 dealing with likely radio lies in the war ahead and suggesting that we should lay plans for "a Bulletin of Correction" directed at immediately supplanting each particular lie with the simplest truth. We should remember that Hitler relies far more on the radio than on anything else to effect what he so charmingly calls "the psychological decomposition of the masses." I believe we now have a system for scotching lies by radio; let us hope that its operators will remain alive to the dangerous antics of the American ex-Isolationists. Another field which these men hope to till with profit concerns anti-Communist sentiment, which is still strong throughout the Union despite Russia's splendid showing. Appeal can still be made to the great influence exerted by various churches and denominations notwithstanding that the man with whom the "Indignationists" would negotiate is the greatest declared enemy of Christian doctrine that the modern world has known.

Americans who would "talk turkey" with Hitler are out to divert American aid from going to Britain and Russia, and one way they think they have of doing this is by overplaying the menace to the security of the United States itself. Phantom enemy flyers are invented off the Californian coast in order that a profusion of airplanes and lavish defence measures shall be retained locally for the duration. When U-boats operate off Long Island, the public is asked: why should Americans build war vessels for others when their own coasts are in such deadly danger? Great play is made with the idea of doing too much for others and too little for self. Indeed, if the "Indignationist" conception gained the day, the big three of the United Nations would fight the war as good as in separate compartments and Hitler would be enabled to bring to victorious fruition his policy of "one by one."

Yet another stratagem is to get millions exaggeratedly thinking A.R.P. in every corner of the United States, leading to the massive enrolment of wardens, fire-watchers, ambulance personnel, and so on through the divers categories we know so well. This, it is calculated, diverts more effort that could be expended in strengthening others, and clouds the real things of which the people should be thinking. It would be rash to prophesy the degree of bombing that may be reserved for the States, but it is already evident that an extravagant attention is being paid to the risk.

The hand of the "Indignationists" is again suspected in the panic demands respecting enemy aliens on the Pacific Coast. There is no denying that the spreading Japanese element constitutes a live peril—twenty years ago I was told in San Francisco that they totalled well over a million. California has emerged as one of the most vital and vulnerable sectors of America-at-war. But the cry to remove, literally, thousands of enemy aliens into the interior conjures an impossible and unnecessary task.

If our American friends who see clearly what this war is about are likely to have bother with some of their own kin who would confuse matters, the least we can do is to refrain from supplying ammunition to Mr. Roosevelt's enemies. Premier Hepburn, of Ontario, may have known what he was doing in proclaiming the inferiority of the American Fleet. All one can say is that it was one of those remarks upon which the "Indignationists" thrive.

WHEN THEY COULD SIT BACK AT EASE, AND WHEN THEY URGED OTHER AMERICANS TO DO THE SAME! Leading figures at an "America First" Rally in New York before the Japanese attack

From left to right are Senator Burton K. Wheeler, a leading Isolationist; Charles A. Lindbergh, idol of the Isolationists; Mrs. Kathleen Norris, novelist from California who has derived a goodly income from this country; and Mr. Norman Thomas, Socialist leader. This picture was taken at a New York meeting when Wheeler and Lindbergh both attacked President Roosevelt's foreign policy and demanded that America be kept out of the war

In a recent White House talk, Mr. Roosevelt drew attention to a local cartoon depicting a rumour-monger telling a little man labelled "John Public": "The British want to fight to the last American." "Why help the Russians? They 'll turn us down later." "We ought to pull out of the Far East. We can't win there." The President said the cartoon was particularly applicable to a Washington set, whose names were well known—former Isolationists—and added that the U.S. capital was "the worst rumour factory and the source of more lies than any other part of the country." The ex-Isolationists make a point of objecting when any war material is sent outside the United States

PROTECTED BY AN ANGLED STEEL SHIELD : A Lewis gunner replying to an attack by a German bomber

FIGHTING the BOMBER

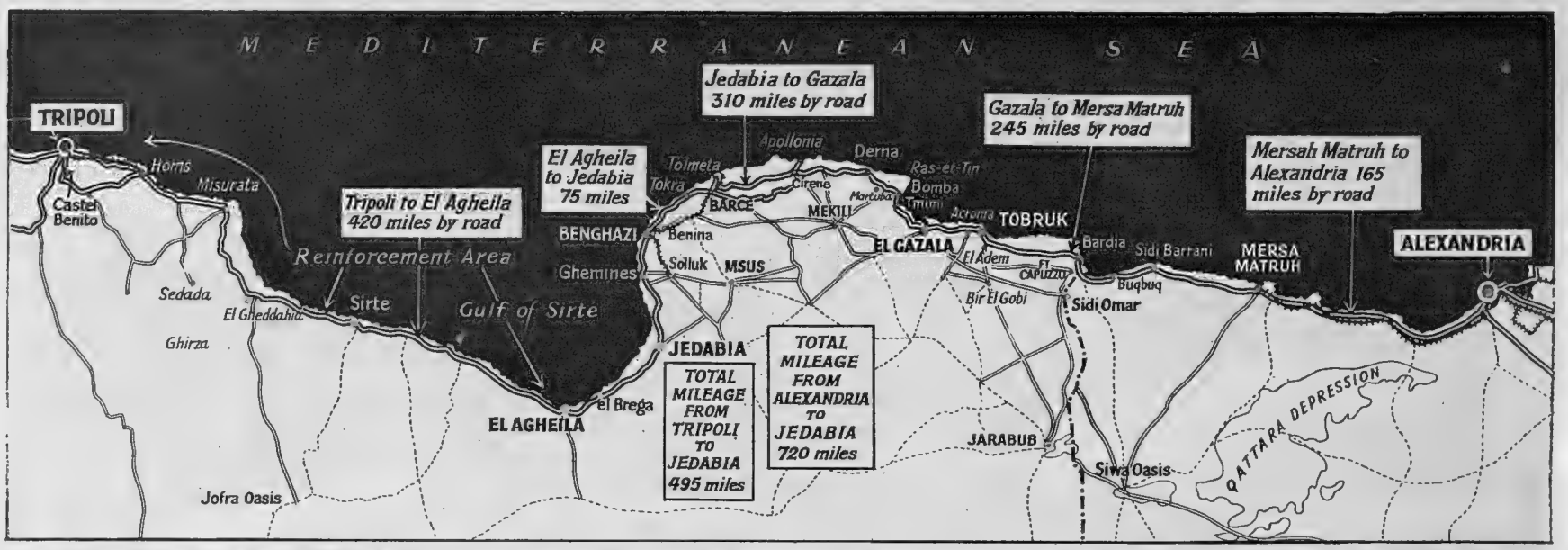
In Rough, Wintry Weather at Sea

—Two drawings by Harry Riley, R.I.

With every new ship that puts out to sea to-day, the methods of repelling attacks from the air are being improved. When the war began, the gunner was placed in the open, with little between him and the aircraft's bullets ; to-day, however, he is protected by steel shields, his guns are better and the fire-power of the guns greatly increased. In the drawing above, the gunner is placed behind an angled steel screen which offers effective protection from anything the aeroplane can discharge at him ; the chain about the gunner's waist is so that he can control his aim the better, no matter at what angle he is firing. In the drawing below, another type of weapon is shown—in this case, on a destroyer escort-vessel. The battery of machine-guns are of the latest type : the protection for the gunner here is most comprehensive

ON BOARD A DESTROYER ACTING AS A CONVOY ESCORT : A multiple machine-gun battery repelling an attack from the air. Note the complete protection for the gunner behind his steel shields and the open sights for close-up fire

COMMUNICATION IS THE VITAL FACTOR IN LIBYA



DISTANCES IN TRIPOLITANIA AND CYRENAICA: Supply problems and the speed of communication have hitherto proved the deciding factors in the warfare in the Western Desert. Here the principal roads and distances between the chief points are indicated

The keynote to the fighting in Libya is provided by one word—communications. When General Rommel was driven back, over a distance of 400 miles, to El Agheila, he lost 61,000 men (Italians and Germans), 386 tanks, and 852 aircraft: but—he was retiring towards his principal supply bases and so shortening his lines. Thus, whilst reinforcements and fresh supplies were coming to him over a much shorter line, General Ritchie was moving his Eighth Army farther and farther away from its bases. By this means, Rommel was able to refit and re-equip his battered forces long before our own men were ready to re-engage him. Hence, the subsequent sweep forward of the mixed German and Italian armies over the Cyrenaican plateau towards Mekili and Gazala. Distances in the desert are immense; roads are few; and at certain points—at Halfaya, Tokra, and other places—difficult country is encountered, all of which delays the supply columns. To a certain extent, supplies for the Eighth Army are speeded up by the railway line to Mersa Matruh, and the use of Tobruk as a port: but, equally, General Rommel is, in all probability, succoured in like fashion by supplies landed at El Agheila, Sirte, and other small ports on the North African coastline. This is an important factor in the Libyan situation; a better understanding of its implications will perhaps be gained by a closer study of the diagram-map reproduced here

THE IMPORTANCE OF ROAD COMMUNICATIONS: When General Rommel retreated down the Barce-Benghazi road to El Agheila, the enemy blew up the road which leads down the escarpment to Tokra. This was a vital point for our supply columns, and it was necessary for the repair work to be carried out quickly. This was done by Indian sappers, assisted by inhabitants of the locality

MAINTAINING TELEPHONIC COMMUNICATIONS IS ANOTHER IMPORTANT JOB: Signallers are here at work on the telephone lines; the tins are placed on stay-lines to guard against drivers of vehicles hitting the poles during dust-storms or at nights

A TELEPHONE OPERATOR IN THE DESERT: A New Zealand soldier acting as signaller. His necessary equipment is carried in a portable pack on his back

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NOW CAPTURED BY THE JAPANESE: A view of the town of Palembang, the oil and commercial centre of the island of Sumatra, which was overrun by heavy enemy forces soon after the fall of Singapore—*Drawing by E. G. Lambert*

THE TOWN OF PALEMBANG, on the Musi River, in Southern Sumatra. It is now occupied by the Japanese

Palembang is one of the great oilfields of the world: its annual output of oil ran into millions of tons. When Singapore fell, invasion forces were immediately made ready to carry Japanese plans in the Dutch East Indies a stage further. Heavy landing forces were put ashore on the Sumatra coast: despite strong opposition by the Dutch Army and by the Allied Air Force, the invasion was pressed—thousands of troops being employed by the Japanese, who had assembled a very large number of ships for their transport in the Banka Strait. Palembang lies 50 miles up the Musi River, and to penetrate to this point the enemy troops were transferred to all kinds of small craft: their losses must have been very considerable, as they were subjected to the heaviest attacks by Allied fighters and bombers. The oil wells at Palembang were, apparently, very thoroughly destroyed: it has been stated that this destruction implies even more heroism than that involved in the destruction of the great Zaporozhe Dam in Russia. The city lies (mainly) on one bank of the river, with the petroleum installations at some distance, as indicated in the above drawing

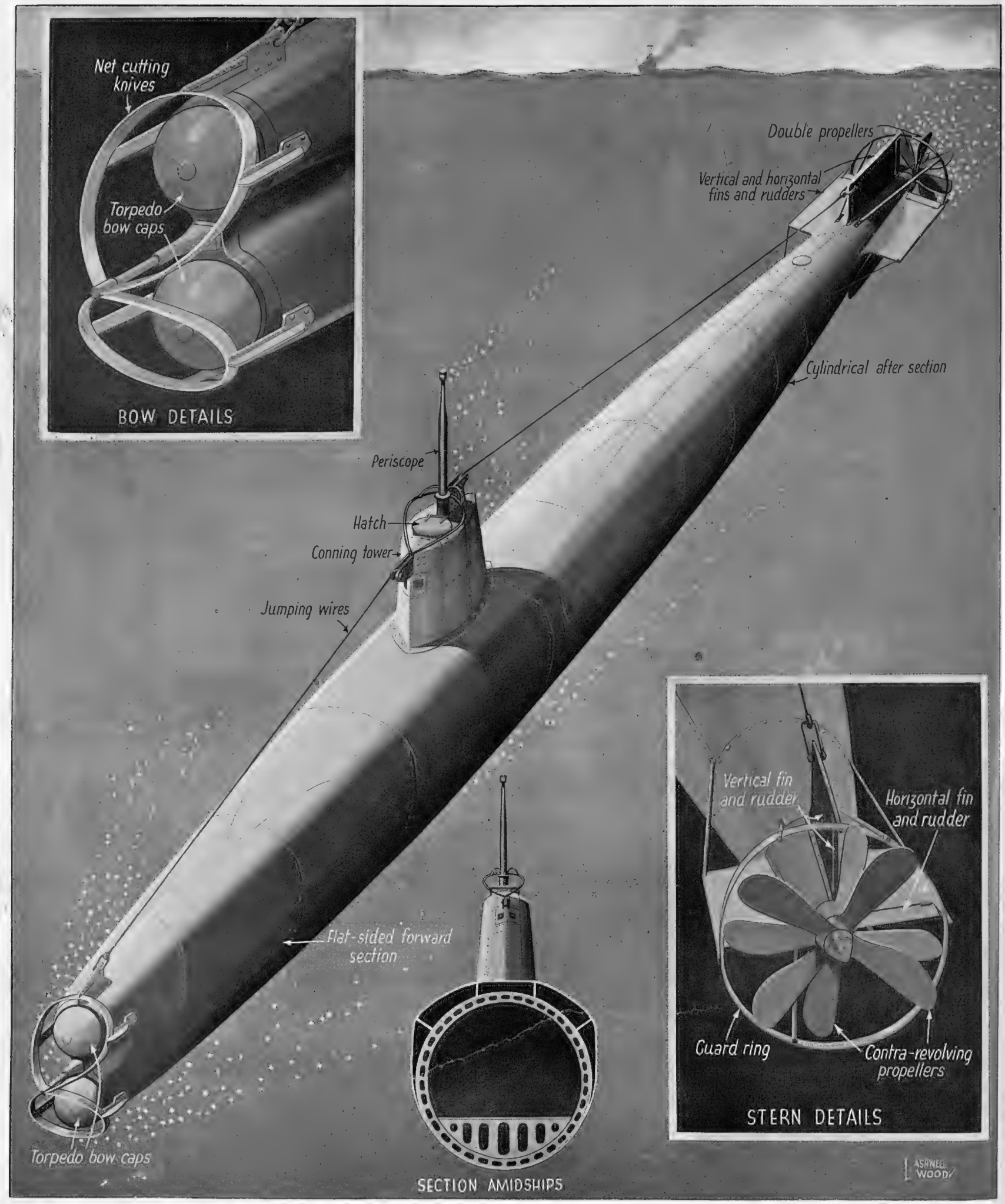
On right—**THE PICTURESQUE AND HISTORIC TOWN OF KOEPANG, on the island of Timor. In this area Japan has attacked two strategic points on Australia's defensive fringe**

—*Drawing by Percy Home*

In the opening part of the month Japan developed attacks on two points which must have engaged the immediate attention of the Australian military authorities. These points were both in Dutch East Indian possessions, the island of Timor and the island of Amboina. It was in the western (Dutch) half of Timor that the attack developed from the air. The attack was directed against the Dutch aerodromes at Koepang (or Kupang), the only town in the Dutch portion of the island. Koepang lies at the sheltered western end of the island; strong easterly winds blow along the southern shore, and very choppy water is frequently met with as one approaches Roti Island, calm water being met with as one enters the southern approach channel protected by Samau Island. There is also a large sheltered indentation of the southern coast, known as Pearl Bank Bay, with a couple of islands; it would provide shelter for any large naval concentration. Captain Bligh noted it as he skirted Timor on his way to Koepang, at the final stage of his historic boat journey, after the mutiny on board his ship the *Bounty* in April 1789. He and his men were succoured at Koepang by the Dutch resident, and it is remarkable that within about fifteen months his boat journey was eclipsed by another, which traversed part of his route—that from Cape York to Koepang. The second boat journey was made by escaped transportees from the penal settlement at Cove Harbour, now part of Sydney, New South Wales

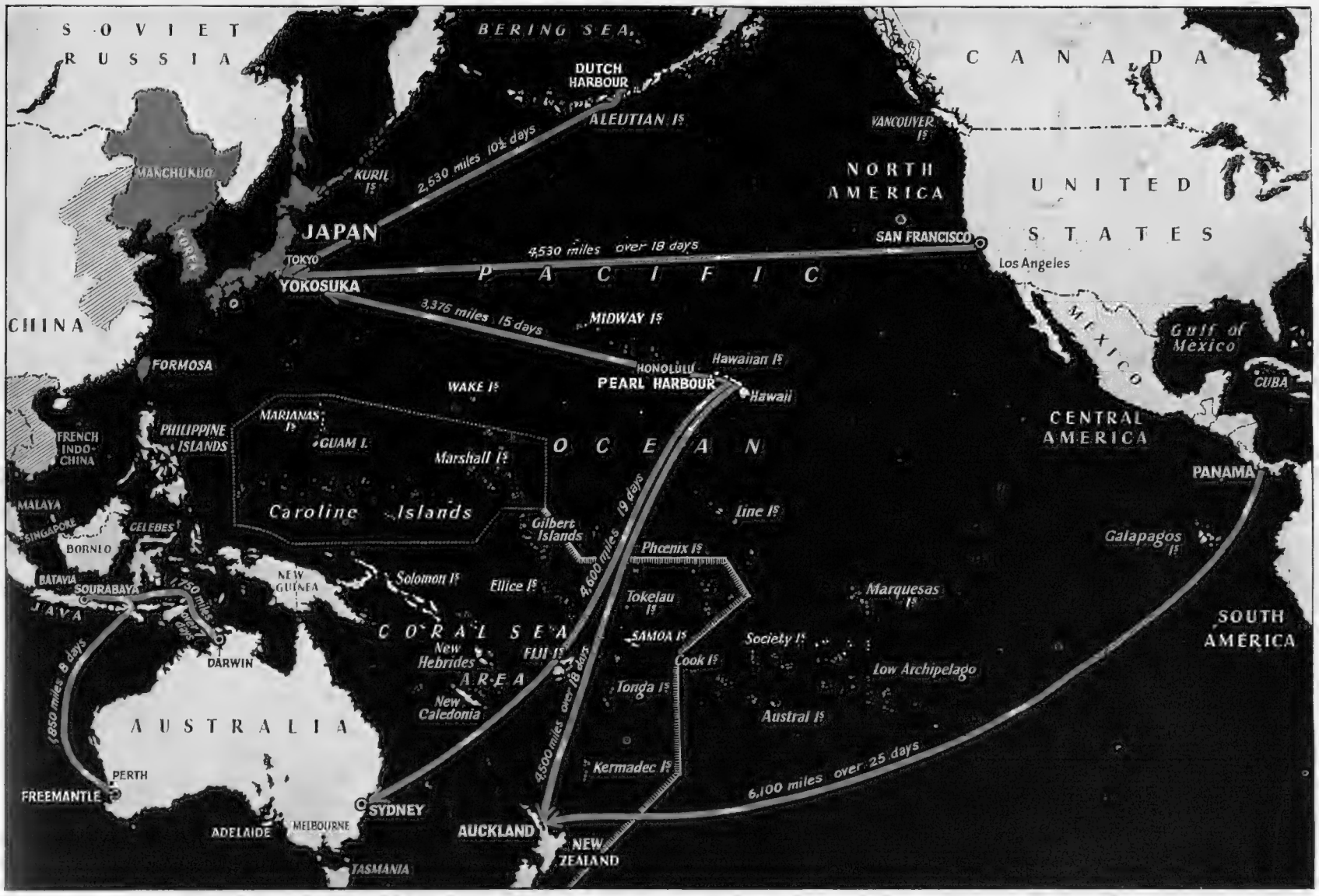
The UNITED STATES NAVY and The PROBLEM of the PACIFIC

A Special Sphere *Section*



A COMPLETE AND AUTHORITATIVE RECONSTRUCTION OF THE TWO-MAN SUBMARINES OF THE JAPANESE NAVY, which took part in the disastrous attack on the U.S. Fleet at Pearl Harbour on December 7. *Reconstructed* **(from actual photographic material from Hawaii)** *by L. Ashwell Wood*

It will be remembered that when the Japs launched their treacherous attack on the U.S. Fleet at Pearl Harbour, a number of two-man submarines participated. The Americans were successful in capturing three of these: and we have now received photographic material from Hawaii which has enabled our artist to make the complete reconstruction which we give above. The anti-submarine net at the entrance to the harbour was not closed when the Japs attacked; but one of their "suicide craft," as the Americans have dubbed them, ran aground in Kaneohe Bay and was able to reveal its secrets. The vessel is equipped with two torpedo-tubes in the bow: neither of these had been fired when this particular specimen ran aground. In front of the tubes, the submarine also had a knife-like apparatus with which it was evidently planned to cut through the net—had it been lowered: it may be that this apparatus was also intended to protect the two torpedoes, the caps of which protrude at the bow. At the stern there are two sets of propellers—contra-revolving, and protected by a guard-ring as indicated above. Although the actual hull of the vessel is cylindrical, a superstructure had been erected above this, for some purpose, which seems to present a slightly top-heavy appearance. One feature well brought out in the above drawing is the great length and slimness of the whole craft with the conning tower slightly forward of the centre



THE MOST IMPORTANT FACTOR OF ALL IN PACIFIC NAVAL WARFARE : A map which shows the terrific steaming distances, involving days and weeks, from the American coast to the various theatres of war in the south-west of the vast Pacific

Before the catastrophe at Pearl Harbour, the United States possessed many bases in the South-West Pacific where her fleets could refuel and refit. Every single one of these, to the west and south of Pearl Harbour, has gone ! The distances involved in naval operations in this area are stupendous : so that the loss of every refuelling point is a disaster of the greatest magnitude. Pearl Harbour and Dutch Harbour remain, of course : these will eventually be found to be the hinges of the future naval strategy of the United States Navy

NAVAL WARFARE in the PACIFIC

As It Affects the American Fleet

By FRANCIS McMURTRIE

Ever since the catastrophe brought about by Japanese treachery at Pearl Harbour on December 7, the Naval Problem of the Pacific has occupied the attention of every student of the war in the Far East. What has happened since that tragic morning ? What to-day is the strength of the United States Fleet ? What has it done ? What is it doing ? It is impossible to answer these questions directly ; but it is possible to set forth some of the conditions which have been and are governing naval operations in the Pacific.

First of all we must assess the approximate strength of the American Navy in battleships, battle-cruisers, cruisers, aircraft-carriers, destroyers, corvettes. Then we must consider bases—and distances. The original triangle, Panama-Pearl Harbour-Dutch Harbour, still remains as the shore-based defence area. But all the advanced and partly defended island refuelling bases have gone to the enemy.

So what remains ? A glance at the steaming-distance map given above must make one pause ! Where, and how, can a necessary concentration be made ? Where can oil be found ? And what of aircraft protection ?

These are only a few of the problems which confront the strategists of the U.S. Navy to-day ! Mr. McMurtrie emphasises these in his article below.

SELDOM has a new war broken out with more dramatic suddenness than the present conflict in the Pacific. Even more than the destroyer attack on the Russian Fleet at Port Arthur on February 8, 1904, the Japanese onslaught from the air at Pearl Harbour last December focused the world's attention on the situation in the Far East.

Undoubtedly, the enemy hoped by this sudden stroke to reduce the United States Pacific Fleet to a position of decided inferiority ; but happily this desire was not realised. At the same time, the damage done was sufficiently serious to awaken grave misgivings in the public mind, which more recent events have done little to allay.

Ships sunk on December 7 were the battleships *Arizona* and *Oklahoma*, comparable to our Royal Sovereign type ; the modern destroyers *Cassin*, *Downes* and *Shaw* ; and two unimportant auxiliaries, the *Utah* and *Oglala*. A number of other units were damaged, though it is believed that almost all of them are now again ready for service.

After allowing for these losses, the strength of the U.S. Pacific Fleet is believed to include the following : Ten battleships—*Colorado* (1921), *West Virginia* (1921), *Maryland* (1920), *California* (1919), *Tennessee* (1919), *Idaho* (1917), *Mississippi* (1917), *New Mexico* (1917), *Pennsylvania* (1915), *Nevada* (1914).

Four aircraft-carriers : *Enterprise* (1936), *Yorktown* (1936), *Lexington* (1925), *Saratoga* (1925).

Twelve heavy cruisers : *San Francisco* (1933), *New Orleans* (1933), *Minneapolis* (1933), *Astoria* (1933), *Portland* (1932), *Indianapolis* (1931), *Louisville* (1930), *Chicago* (1930), *Chester* (1929), *Northampton* (1929), *Pensacola* (1929), *Salt Lake City* (1929).

Thirteen light cruisers—*Helena* (1938), *St. Louis* (1938), *Phœnix* (1938), *Honolulu* (1937), *Nashville* (1937), *Savannah* (1937), *Boise* (1936), *Brooklyn* (1936), *Philadelphia* (1936), *Trenton* (1923), *Detroit* (1922), *Concord* (1921), *Richmond* (1921).

Over 100 destroyers, practically all of modern type. At least thirty submarines, the majority modern.

Besides these actual fighting-ships, there are in the Fleet the necessary proportion of ancillary craft, such as patrol vessels and mine-sweepers ; destroyer, submarine and seaplane tenders ; repair, ammunition and store-ships, oilers, etc.

In addition, there is the Asiatic Fleet, formerly based on Manila, which comprised the heavy cruiser *Houston* ; the light cruiser *Marblehead* ; about a dozen destroyers ; eighteen submarines ; one seaplane carrier ; and two gunboats, which in our Service would be rated as sloops.

Under the reorganisation carried out since the Pearl Harbour disaster, the Commander-in-Chief of the entire U.S. Navy afloat is Admiral Ernest J. King, who was reported to be in Washington a few days ago. Admiral Chester W. Nimitz is in command of the Pacific Fleet ; Vice-Admiral H. F. Leary holds command of the U.S. naval forces in the "Anzac" area ; and Vice-Admiral W. A. Glassford is in charge of those in the "Abda" area, under Vice-Admiral C. E. L. Helfrich, of the Royal Netherlands Navy, who now holds the chief sea command there.

It must be borne in mind that the United States Navy also includes a strong force in the Atlantic, the two most formidable units of which were completed barely six months ago. All or any of these ships may at any time be transferred to the Pacific by way of the Panama Canal. These are summarised below :

Five battleships—*Washington* (1940), *North Carolina* (1940), *New York* (1912), *Texas* (1912), *Arkansas* (1911).

Three aircraft-carriers—*Hornet* (1940), *Ranger* (1933), *Wasp* (1939).

Five heavy cruisers—*Wichita* (1937), *Quincy* (1935), *Tuscaloosa* (1933), *Vincennes* (1936), *Augusta* (1930).

Five light cruisers—*Memphis* (1924), *Raleigh* (1922), *Cincinnati* (1921), *Milwaukee* (1921), *Omaha* (1921).

About seventy destroyers ; over fifty submarines ; about fifty motor torpedo-boats ; fully one hundred submarine-chasers ; over thirty gunboats and patrol vessels (many of which were formerly fast motor-yachts) ; and numerous auxiliaries, such as mine-sweepers, repair-, store- and ammunition-ships, destroyer, submarine and seaplane tenders.

As will be realised, this makes up a force which, in the aggregate, is definitely superior to the whole of the Japanese Navy. Unfortunately, the whole

(Continued on page 274)

DISTANCES in the PACIFIC OCEAN

San Francisco to Yokosuka, 4,530 miles
Over 18 days at 10 knots, nearly 13 days at 15 knots

Pearl Harbour to Yokosuka, 3,375 miles
Nearly 15 days at 10 knots, over 9 days at 15 knots

Dutch Harbour to Yokosuka, 2,530 miles
10½ days at 10 knots, 7 days at 15 knots

Pearl Harbour to Sydney, 4,600 miles
19 days at 10 knots, 13 days at 15 knots

Pearl Harbour to Auckland, N.Z., 4,500 miles
Over 18 days at 10 knots, 12½ days at 15 knots

Panama to Auckland, N.Z., 6,100 miles
Over 25 days at 10 knots, 17 days at 15 knots

Fremantle to Surabaya, 1,850 miles
8 days at 10 knots, 5 days at 15 knots

Darwin to Surabaya, 1,750 miles
Over 7 days at 10 knots, 4½ days at 15 knots

No ship would willingly proceed at high speed over such long distances lest she should exhaust her fuel before being called on to fight. The above, therefore, are the economical speeds for a big fleet accompanied by auxiliaries, etc. : not more than 10 knots would be reckoned on for these journeys. For a Cruiser Squadron, a speed of 15 knots would be the most probable economical speed. Destroyers need hardly be considered here, since they would not normally be steaming for such long distances independently.

TWO FLAGS in the ATLANTIC

The United Patrol by Units of the British and U.S. Navies

Out on the Wintry Atlantic, an American Cruiser Passes a British Destroyer at the Edge of Their Respective Beats

—From a Painting specially done for The Sphere *by Montague Dawson*

"The United States is now, unitedly and wholeheartedly, in the war with us. . . ." So said the Prime Minister in his momentous broadcast on February 15. And so it is, in fact! So far as the Fleets of the two nations are concerned, so it has been for a long time. Far out in the Atlantic, for a good while past the two Fleets have been co-operating in the vital task of keeping the life-line of the democracies intact. The drawing by Mr. Montague Dawson above typifies this aspect of the war to-day. The British destroyer in the foreground is one of the Tribal class; this is a vessel of 1,870 tons, with a speed of 36 knots; she carries eight 4·7 guns and seven smaller ones. The American cruiser behind is the *Augusta* (9,050 tons), of the Northampton class; she carries nine 8-in. guns and four 5-in. guns; she has a speed of 32 knots and a radius of 13,000 miles

On left (from left to right)—**1. Signalmen on a British destroyer flashing a message to an American patrol vessel. 2. Signals are exchanged between the American and British destroyers. 3. Led by the senior U.S. escort ship, the Convoy approaches to be taken over by vessels of the Royal Navy**

THE JAPANESE NAVY OUTWITTED BY U.S. STRATEGY IN THE ALLIED ATTACK ON THE ENEMY "INVASION CONVOY" IN THE STRAIT OF MACASSAR: The scene as four and left as they went. On the left are Jap transports close in to the land; in the centre are three of the U.S. destroyers; on the right is a Jap cruiser

NAVAL WARFARE IN THE PACIFIC

(*Continued from page 271*)

problem of war in the Pacific is governed by distances, Thus, Yokosuka, Japan's naval headquarters on Tokyo Bay, is 4,530 miles from San Francisco, from which it does not differ greatly in latitude. From the main American naval base at Pearl Harbour it is distant 3,375 miles. The only U.S. naval base nearer than this is Dutch Harbour, Alaska, on the margin of the Bering Sea, and this is 2,530 miles away.

Since there are no fuelling stations between, any approach to Japanese waters would need to be a gradual one, to enable suitable islands to be occupied and used as provisional bases for a further advance. A preliminary move in this direction appears to have been made at the beginning of February, when the United States Fleet raided Japanese garrisons in the Marshall Islands, presumably with a view to ascertaining the extent of opposition likely to be encountered.

To reinforce the Allied forces in the East Indies, direct approach from Pearl Harbour is no longer possible, owing to the loss of the intervening fuelling stations at Wake, Guam and Manila. In default of these facilities, the route through Australian waters might be followed.

From Pearl Harbour to the Australian base at Sydney, *via* the U.S. naval station at Tutuila, Samoa, is 4,600 miles; by way of Fiji it would be about 120 miles less. An American squadron under Vice-Admiral Leary was reported last week to have arrived in New Zealand waters from Pearl Harbour, a distance of nearly 4,500 miles. A force proceeding to New Zealand from the Panama Canal would have to steam well over 6,000 miles.

From certain Australian ports to Surabaya would be 1,140 miles (Darwin), or 1,820 miles (Fremantle).

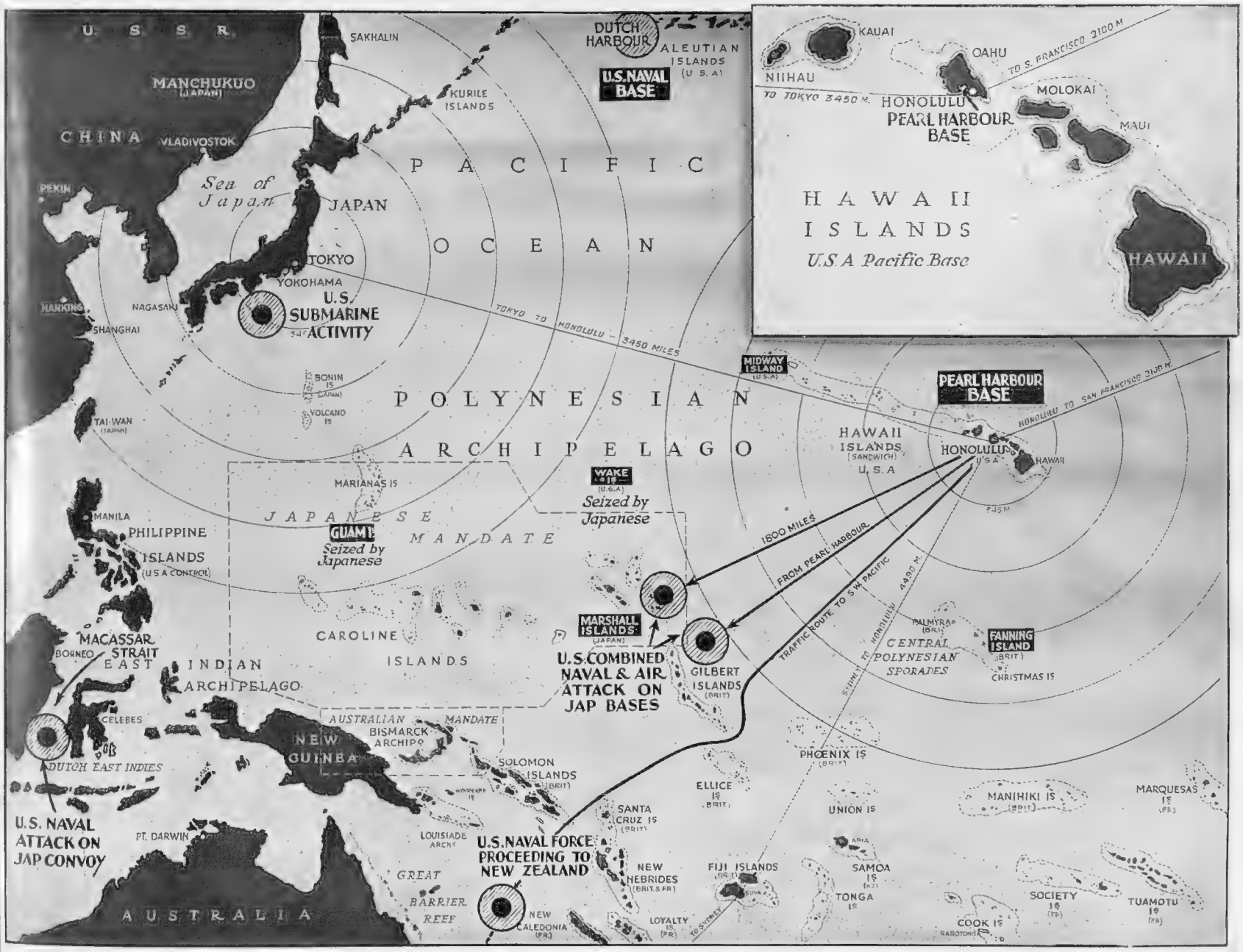
All U.S. battleships possess large fuel-capacity, equal in the majority to about 10,000 miles steaming at 10 knots; while cruisers have a radius of action of from 13,000 to 14,000 miles at 15 knots, their most economical speed; but this is not all the story. In wartime, no fleet could afford to go to sea without being accompanied by an ample force of destroyers to serve as an anti-submarine screen. Modern American destroyers are credited with the ability to steam 5,000 miles at 15 knots. Even though this may be an understatement of their capacity, it is clear that the fleet's movements must be governed by the fuel endurance of its destroyers. Fuelling at sea is not an operation likely to be undertaken save in dire emergency, owing to the risk of submarine or air attack. No admiral would be so rash as to take the risk of meeting the enemy with his fuel bunkers empty; and though tankers might be ordered to accompany the fleet in certain circumstances, their presence would be a grave handicap.

Thus it is evident that to bring the Japanese Fleet to action, or to drive home a hamstringing attack on the enemy's sea communications (which would doubtless amount to the same thing), it will be necessary to observe the principle of *festina lente*.

THE NAVAL BATTLE IN THE MACASSAR STRAIT, where U.S. cruisers helped in the very serious reverse inflicted on the Japanese—*Drawing by Wm. McDowell*

The recent action by the Allies against a big Japanese invasion convoy in the Macassar Strait, in which severe losses were inflicted on ships and men of the enemy fleet and caused the survivors to abandon their object and turn back for home, was the biggest combined sea and air engagement of the war in the Pacific; and success was achieved at astonishingly small cost to our own vessels. One of the features of this battle was the presence of U.S. destroyers *and cruisers*: this news was contained in a communiqué from Washington, and was the first official mention of cruisers taking part in the naval operations in these waters. During this engagement the incident illustrated in the larger drawing *at the top* of these pages also took place. The drawing immediately *above* shows one of the U.S. destroyers accompanying a U.S. cruiser into action and bombarding the Jap transports in the Strait in the distance

American destroyers broke through the enemy line in the darkness and raced between the two lines of Japanese ships in the opposite direction, blazing away to right turning out of line to attack the destroyers. (For fuller account of this action, see description below bottom picture on the left)—*Drawing by Wm. McDowell*



THE POINTS IN THE PACIFIC WHERE THE UNITED STATES NAVY HAS ALREADY STRUCK HEAVY BLOWS—in the Marshall and Gilbert Islands; in the Dutch East Indies and off the Japanese coast itself. At the same time an American naval force has also proceeded to New Zealand—*A special Sphere map*

Despite the losses of all their bases in the South-West Pacific, Pearl Harbour in Hawaii and Dutch Harbour in the Aleutians remain to the U.S. Navy: both these are mightily fortified and both will prove of greater and greater value as time goes on. Before the treachery of Pearl Harbour, the United States Fleet was a terrific force; with new additions coming off the launching-slips every week it will soon catch up with its losses—if, indeed, it has not already done so. But, even before Japan declared war and whilst she still had the use of Wake, Guam and the Philippines, it was realised that America's great lack in the Pacific was a sufficiency of bases—owing to the vast distances involved. How the U.S. Fleet has overcome this we cannot at the moment relate; but here are the facts! The Marshall and Gilbert Islands are some 1,800 miles from Pearl Harbour: both were raided in force in a combined naval and air attack. And whilst this was in progress another naval force was proceeding to New Zealand, many thousands of miles distant. In the Dutch East Indies, too, American warships have played a great part in the attack on a Japanese invasion armada: whilst off the Japanese coast itself U.S. submarine activity has warned the enemy of what they may ultimately expect when the American Fleet is fully regrouped and ready for completer offensive action. The despatch of a U.S. naval force to New Zealand seems to be an earnest of this!

UNCONVENTIONAL WARFARE

—Some Suggested New Tactics

How British Positions in Malaya and Elsewhere Overseas Might Have Been Held

By DONALD COWIE

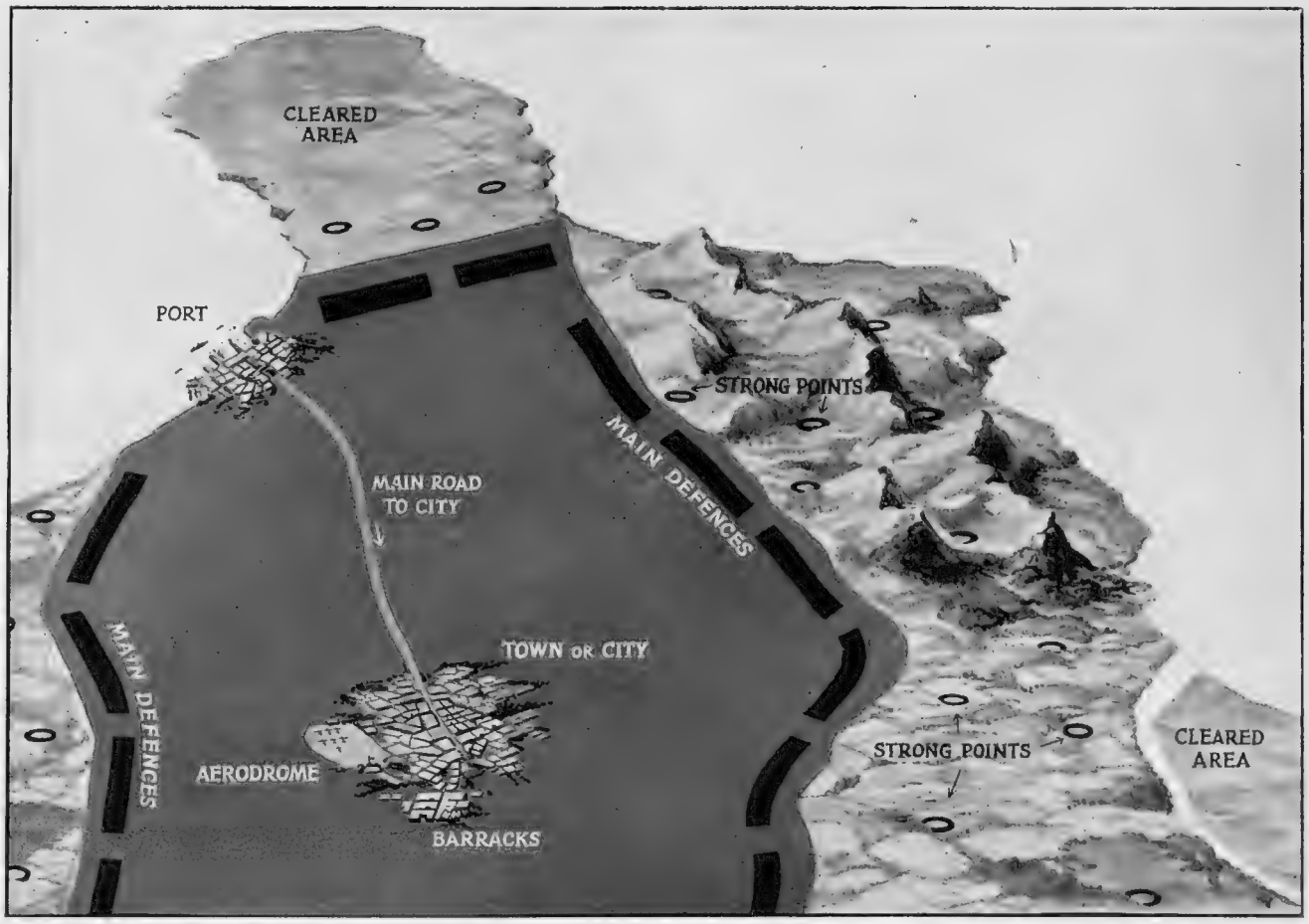
(With Diagram Illustrations by E. G. Lambert)

IT is possible we have concentrated too much in this war upon defects of strategy and supply, such as apportionment of forces to various theatres, and output of weapons and trained men. Have we paid sufficient attention to the actual use made of material on the spot, the humdrum tactical use? One certainly looks in vain for really clever improvised and unconventional defence achievements in any theatre, such as Lawrence employed so successfully in the last war, the International Brigade used in Spain, and the Soviet guerillas are still justifying in Russia.

Admittedly our local commanders and men have nearly always had a tough job. But in most cases they have been given a certain amount of good material, guns, aircraft, ammunition, dynamite, barbed wire, concrete, tanks, lorries. When we examine the detail of their defensive arrangements, however, we usually find that the same old tactics have been disastrously employed. Barbed-wire has been strung round the beaches, field-guns and machine-guns disposed according to the book, roads conscientiously blocked and mined.

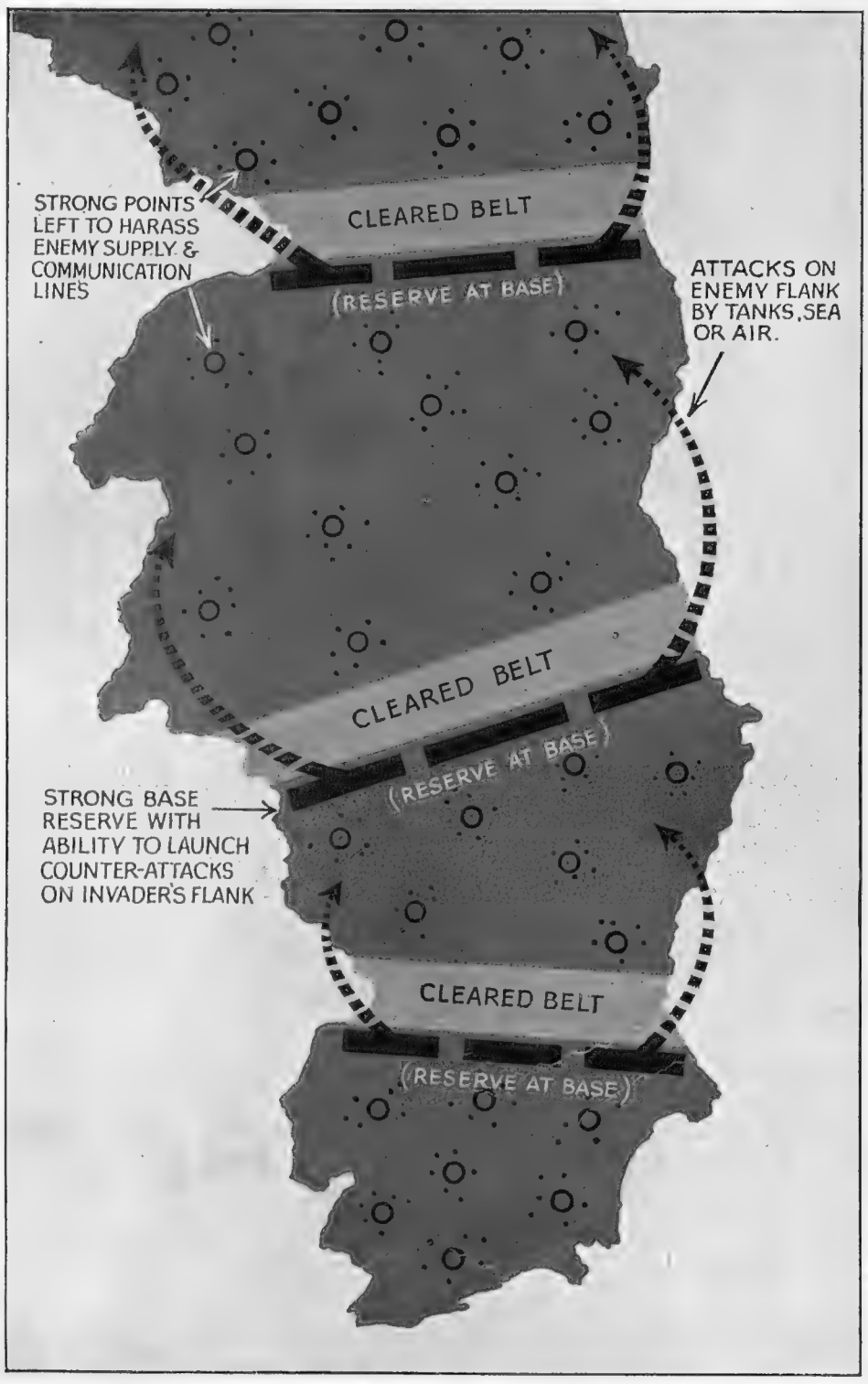
But the enemy has always expected that, and his assaults have been planned to penetrate the soft spots of those defences, or to take them in rear, or to crash right through them.

Lawrence never had sufficient material and men. He would have been delighted with the weapons possessed by our men in Malaya. Yet he succeeded, by the employment of gelignite, crowbars, and other hitherto unregarded instruments, in completely demoralising a strong army, and preparing the way for its defeat. The International Brigade in Spain was equally successful, as actual defenders, and even made many of us think that the tank was a defeated weapon—by destroying vehicle after vehicle with tins of petrol and sticks of explosive. It is unnecessary to speak about the Russians. Where would they have been if they had relied solely, like the French, on conventional methods? At least two main suggestions can be made. The first concerns the actual disposition of the defenders in a territory like Malaya. Instead of sending them up to meet the enemy, and to retire steadily before him as they are outflanked, what about keeping half the force in reserve at base and disposing the rest in carefully placed strong-points right through the country? Points of this kind have been employed successfully in Spain and Russia. The idea is that each fortress delays the enemy a certain time, and if the enemy by-passes it, the garrison, in its constant patrols to outlying secondary strong-points, can effectively interfere with his supplies. A rough diagram of such a point is given. The points are arranged like barrage balloons, so that the invader



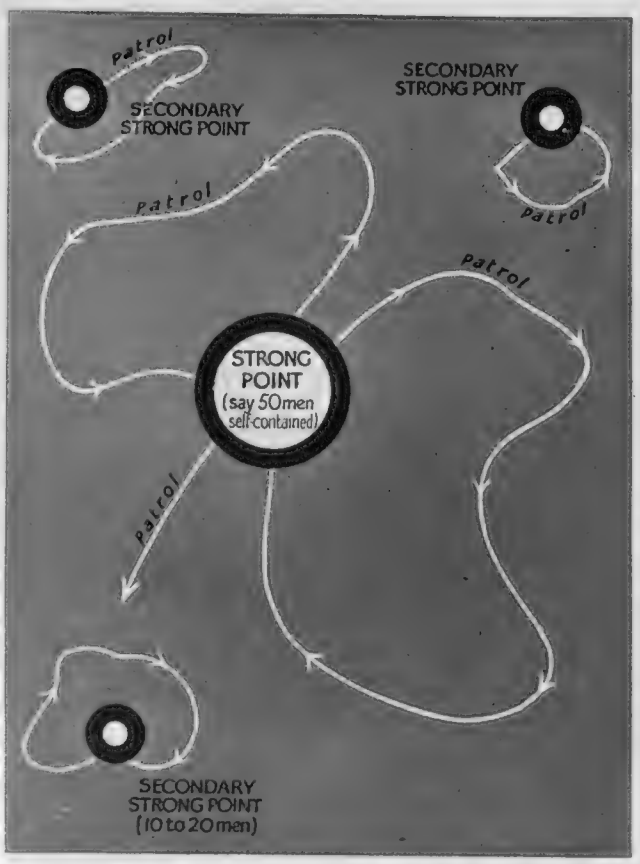
HOW TO DEFEND A CITY by "sterilised," or cleared, zones, with "strong points" established throughout the approaches

The above diagram shows an imaginary City, with its defences arranged according to the formula set out in the accompanying article. Although these defences may never be tested (as the whole strong-point plan is meant to detain the invader in the hinterland, after which he is counter-attacked as indicated in the second diagram below), yet their novel disposition might well prove more effective than the conventional method. Briefly, the approaches to the City are dotted with strong-points like those described in the article. Then "sterilised" zones are established across the chief places of access to the City area, backed by concentrations of artillery, tanks, anti-tank weapons and infantry. If it ever comes to fighting round the City, then it will be done in these empty zones, without interference from the local population. It might also be suggested that a final reserve force be kept hidden in the City itself, mobile and highly-trained, for the purpose of launching daring counter-attacks upon the invaders from their flanks as they struggle with the "fixed" defenders in the various zones outside



***On left*—METHODS OF DEFENCE by cleared areas and by "strong-points." Every area would thus become a strongly fortified zone where each step would be fiercely contested**

The suggestions contained in the accompanying article for the defence of a country by "strong-points," cleared belts and carefully-planned counter-attacks are depicted in this diagram. It will be observed how the invaders cannot fail to come within the "sphere of influence" of the strong-points (whose garrisons patrol the surrounding area constantly). Proceeding through the country would be like flying through a balloon-barrage. Periodically, moreover, the invaders would have to fight pitched battles in the specially cleared defence zones stretching right across the country. And finally, they would be counter-attacked at both flanks by forces kept in reserve. The invaders would at least have to fight hard for every inch of territory in such a scheme. The main point is, however, that the planned defence of the new kind knows what it is doing, and is really an offensive operation in itself



HOW A "STRONG-POINT" SHOULD BE BUILT UP, with secondary strong-points as lesser defensive areas

cannot entirely avoid them or their patrols. The British Isles might well be defended in the same way.

The second main suggestion concerns the actual use of materials, like high-explosive, barbed wire, obstructions, even tanks and lorries. It has been our custom, apparently, to destroy these when a position is lost and they cannot be brought back. Would it not be better if our men were trained in the art of using such weapons and materials unconventionally when battles are going against them? In a rough-house you employ your teeth and your finger-nails when other methods have failed. Thus, field-gun explosive, demolition dynamite, petrol, oil, even field-kitchens,

A NEW "TARZAN"-LIKE EXERCISE FOR THE TROOPS: Tactics such as these were adopted by the Japanese in their advance through the Malayan jungle, where their agility was commented on by many qualified observers. In this case, the soldier is a Newfoundlander undergoing training in the South of England

can become really dangerous and effective weapons in the hands of intelligent, desperate men.

What did the Germans do with their tanks when the spearheads were finally blunted against the Moscow defences? They removed the tracks and surrounded the machines with earth, sometimes with concrete, then made them the centres of strong-points from which men went out in concentric offensive patrols. Many vehicles could be used in a similar way.

Even the burning of oil stores and timber materials could—and has been elsewhere—utilised to provide smoke-screens. Undoubtedly our use of smoke and "artificial fog" has not been good enough in this war. Smoke-bombs can be easily improvised, as, indeed,

THE SHOCK TACTICS WHICH ARE NOW BEING TAUGHT TO PICKED TROOPS: Canadian soldiers in Britain are amongst those now being trained in assault and shock tactics. Officers have undergone an instructional course in these new ideas, and have now returned to their units to begin their training of the men under their command. This picture shows a body of nine men crossing a river in a small portable boat to the assault of an enemy position. Note the crew at the bow ready with their Bren and tommy-guns, to cover the landing operation

bombs of all kinds. A retreating army has a surplus of suitable material—which it abandons by the roadside, or burns.

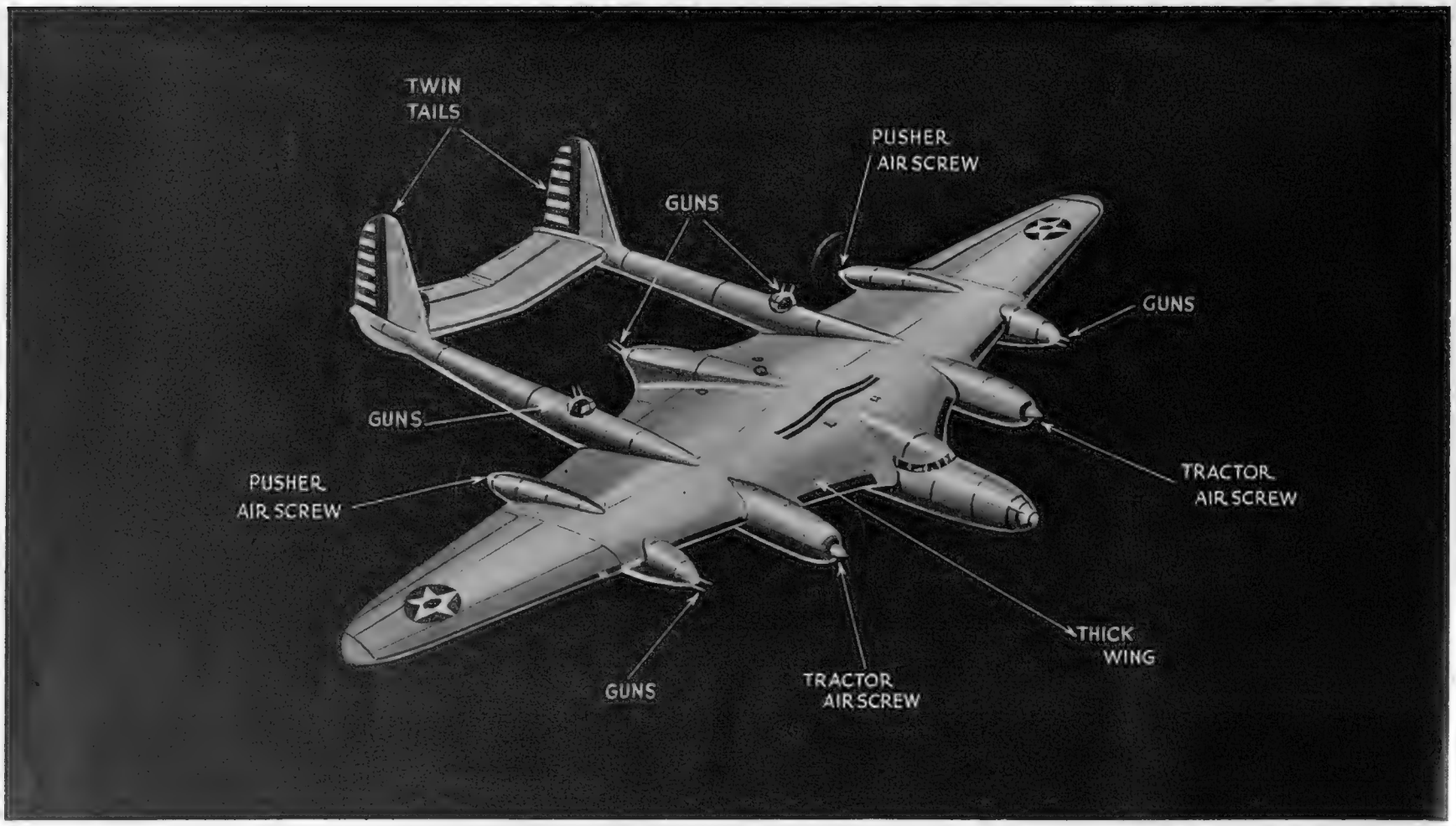
Mention has been made of difficulties with local populations. This is as unnecessary as it is fatal. In every case large zones of potential battle areas should be completely sterilised of human life long before the fight begins. Then there will be no trouble with spies or with inability to distinguish between friendly natives and invaders. But, apart from that, why not train large numbers of suitable natives for offensive duties the other way round, that is, to welcome the invaders in places, then turn on them as soon as they have passed? If that were done, it would be the invaders who would suffer from confusion. Most of our native populations are only a few generations removed from savagery, and have long been burning for a fight, especially a knife-in-the-back fight of the type for which they are best suited.

Now for the half of the defending forces which are kept in reserve at base. They are designed, of course, for the counter-attack. We do not seem to have realised, save in a few isolated cases, that no defence can be effective that does not contain the strength and materials for at least a token counter-attack at the best possible time.

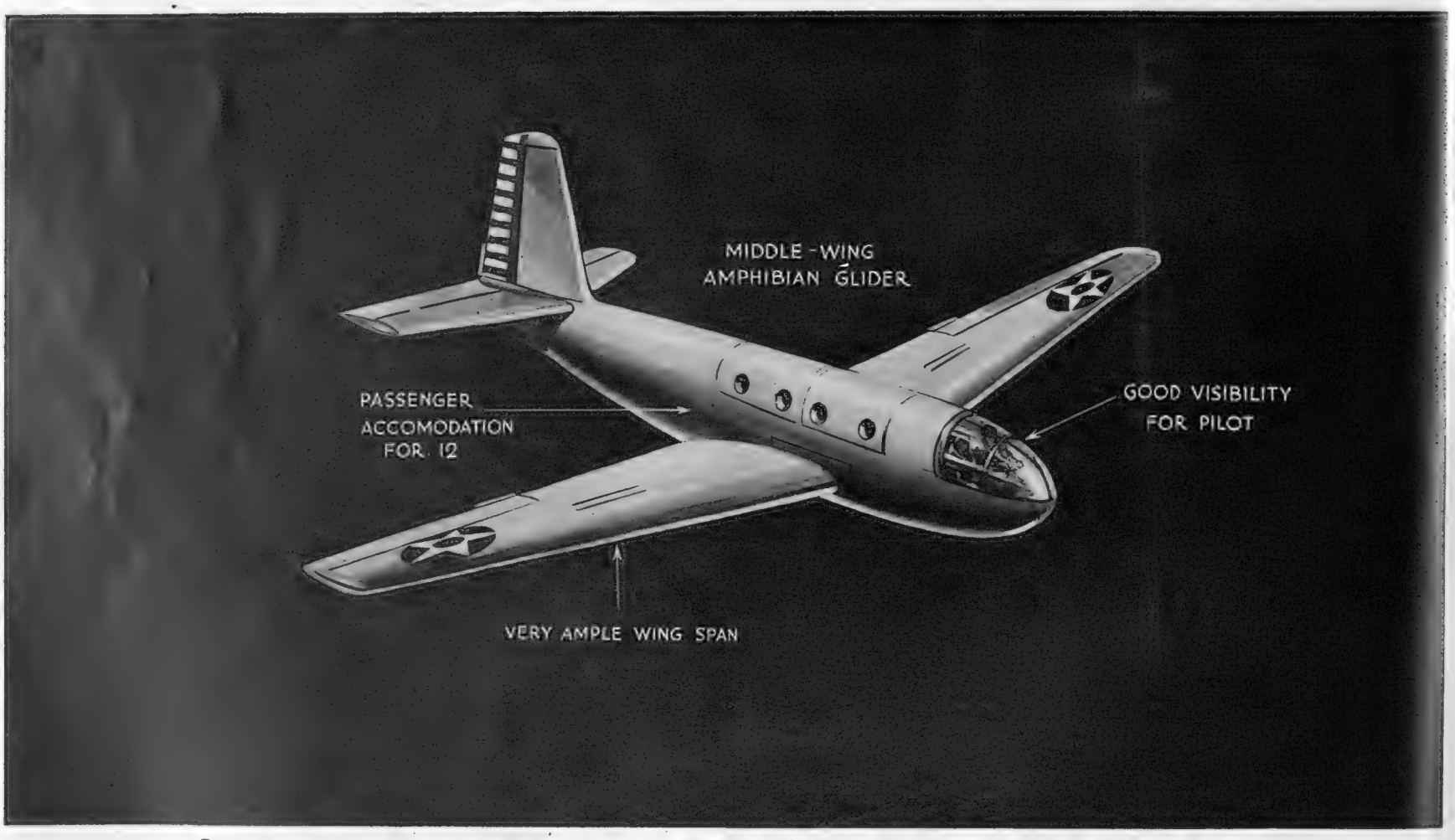
Having inveigled the enemy into the maze of strong-points and native guerilla bands, the defending commander would wait his opportunity, then launch shrewd, small, but sharp counter-attacks on the invader's flanks, conveying his men either in tanks, or by sea, or by air, for the purpose. Unquestionably the best mode of transport is air, and the best troops are paratroops.

We have now reached the point where recent realities defeat our plan. How many paratroops did we have in Malaya? But we have to concern ourselves to-day not with the past, but with the future, and our preparations for that should include, foremostly, the training of infantry in the most highly unconventional uses of weapons and materials that we can devise, and in the building-up of a really effective air-borne striking force.

THE TRAINING OF THE NEW "RECONNAISSANCE CORPS": The building up of this newly-formed Corps has been proceeding during recent weeks from a training centre over the Scottish border. Plans for this scouting force, to be trained in Commando fashion, and armed and mechanised on an unprecedented scale, took shape last spring. From small beginnings the Corps grew rapidly. Each battalion—there is one to each infantry division—has high-speed cars, Bren-gun carriers, troop-carrying trucks, and motor-cycles, 250 of them in all forming a column 13 miles long. This picture shows one of the new mechanised Reconnaissance units in the Northern Command working under cover in hilly country



1. A FOUR-ENGINED BOMBER OF THE FUTURE, with its motors arranged to secure advantageous defensive fire-power



3. THE HUGE 12-SEATER AMPHIBIAN GLIDER, ordered for the U.S. Navy. It will be nearly as large as a Douglas air-liner

THE SHAPE OF THINGS TO COME IN THE AIR?

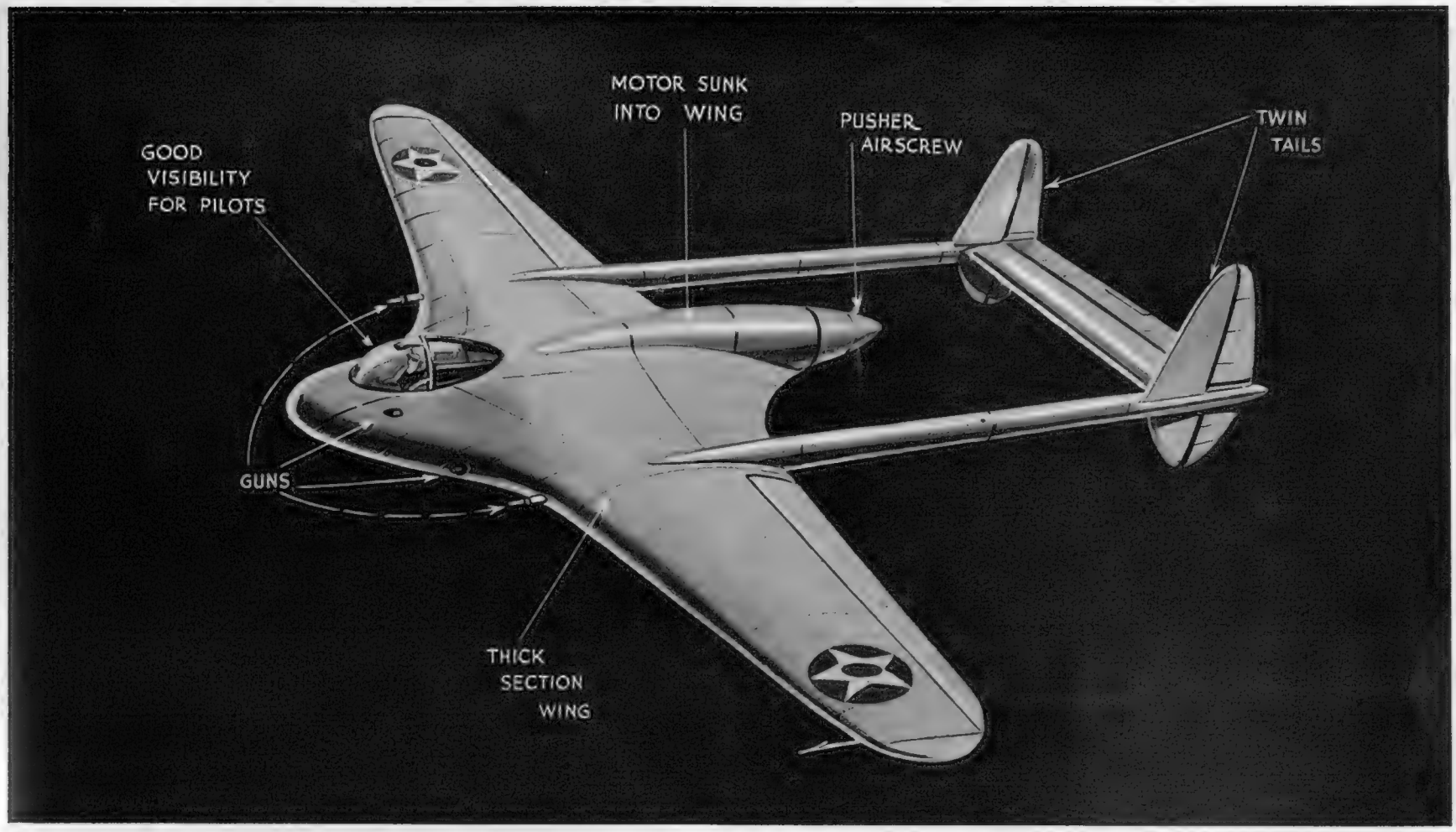
Four New and Completely Unorthodox Types of Aircraft with which Designers are Now Experimenting in the United States

—These drawings (by Roland Davies) are from photographic material in our possession

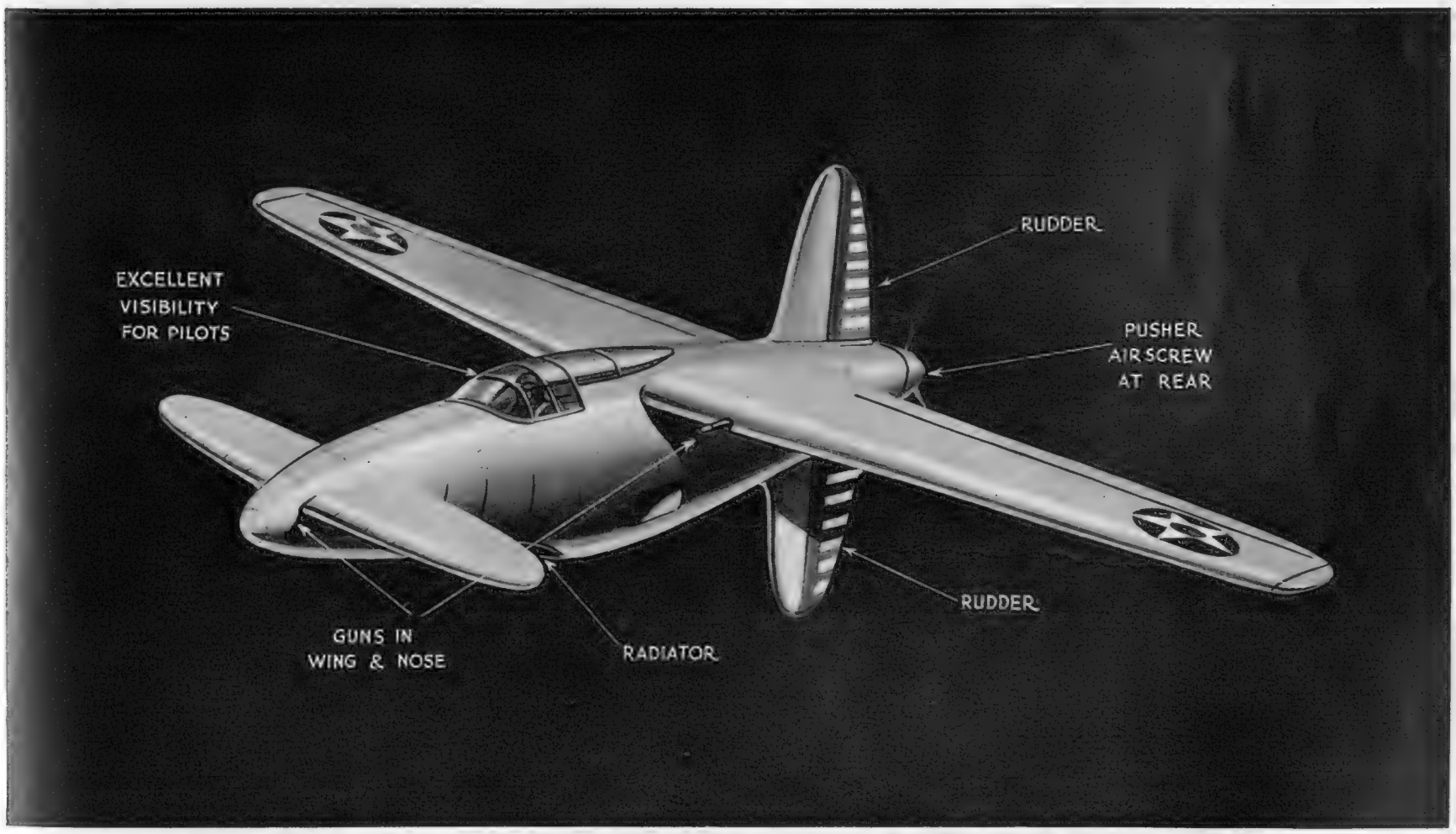
TO increase speed and fire-power—the two chief considerations in the design of warplanes—designers in all the combatant countries are thinking along lines very different from those hitherto. To-morrow we must expect to see the most extraordinary-looking machines ranging the skies. In developing the aeroplane of the future, designers seem to be directing their efforts principally towards the wings, in which they are endeavouring to put as much as possible, and to the fuselage—in some cases it is proposed to abolish this altogether!

As readers of this journal will recall, already a scaled-down prototype aircraft has actually been flown which is, in truth, *all* wing. This is the Northrop tailless plane, of which drawings and photographs have been reproduced recently in these pages.

American draughtsmen-artists have been at work on the new designs, and the illustrations reproduced above have been made from their ideas. The "Design Engineers" of the U.S. Army Air



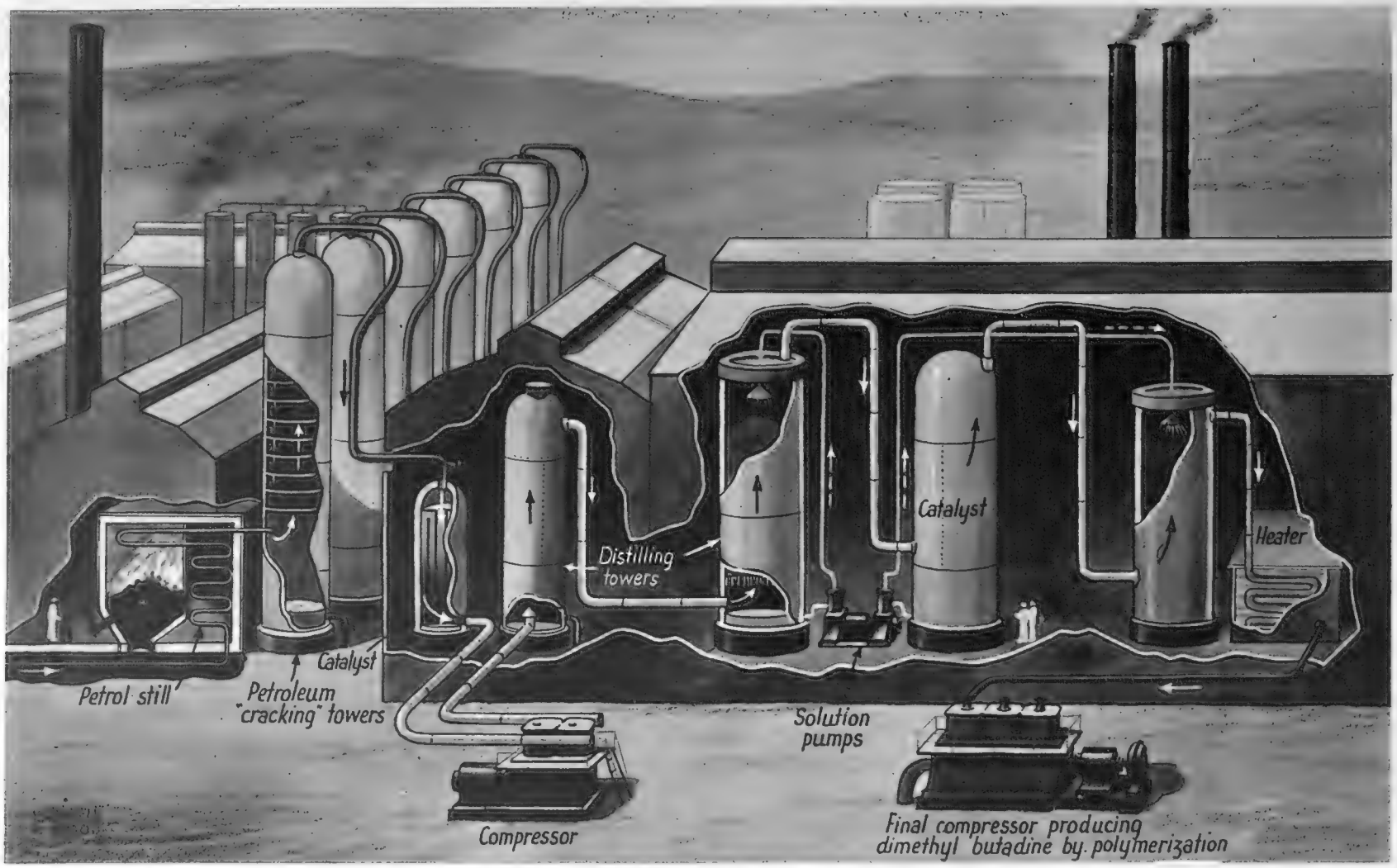
2. A SINGLE-ENGINED FIGHTER AIRCRAFT, with its motor "submerged," and with a pusher-propeller and an enlarged section-wing



4. A REVOLUTIONARY EXPERIMENTAL DESIGN OF U.S. FIGHTER, in which everything which should be in front is at the back!

Corps Material Division, responsible for these ideas, do not necessarily mean that aircraft will now be produced in exact conformity with the drawings shown here; but they have outlined their startling theories to serve as a basis for the further study of aerodynamics, fire-power and performance.

In two of the proposed designs, the utmost use has been made of the wing, "submerging" the pilot and engines in it; but, in both cases, the tail unit assembly is separate, and carried at the end of two narrow booms. The third machine, in which everything which should be last comes first, looks very interesting, although hardly beautiful in the way a Spitfire is beautiful. Visibility must be excellent, and there is a good deal of room for cannon, machine-guns and fuel. With regard to the fighter aircraft with twin tails, this is very much like the German Focke-Wulf Army Co-operation plane, and it also bears a resemblance to the American Lockheed Lightning now being produced for the R.A.F.—the Lightning is claimed to be capable of 458 m.p.h. in level flight—but it has twin motors with tractor air-screws. The following notes describe in detail the four aircraft depicted here: **1.** A four-engined bomber "with its motors arranged for the procuring of advantageous defensive fire-power." Two of the propellers are of the pusher type and two of the tractor. It is stated by the American designers that European trends parallel this idea in some details. Note the double-tail assemblies, the huge wing and the gun-mounts. **2.** This single-engined aircraft is similar to some of the experimental models with which both commercial and Army designers work in their laboratories: the motor is submerged, and the aircraft "has the advantage of an enlarged section-wing with a relatively thin percentage characteristic." **3.** This is not an aeroplane, but a glider of amphibian type which has actually been ordered for the United States Navy. It is stated that it will be nearly as large as one of the big Douglas D.C.3 air-liners. There will be room for twelve, or it can be employed to transport guns and equipment. **4.** An entirely revolutionary, experimental design is this possible future fighter of the U.S. Army Air Corps; dubbed the Canard, it is a pusher type, with the tail first and the propeller at the extreme rear. This gives "the advantage of eliminating rough air over the aeroplane." Vision characteristics are stated to be excellent.



HOW SYNTHETIC RUBBER IS BEING MANUFACTURED IN THE UNITED STATES—FROM PETROLEUM! By this means it is probable that our necessary supplies of this precious commodity will be maintained despite the loss of the Malayan plantations—*Drawing by L. Ashwell Wood*

Mr. Averell Harriman, America's Lease-Lend representative in Britain, has just made a most reassuring statement concerning the rubber situation both in his own country and here. Owing to the loss of the Malayan plantations, it was feared by many that there would soon be a shortage of rubber. But this is not so: according to Mr. Harriman, existing stocks of the raw material will be sufficient until the new synthetic rubber plants in the United States begin to produce the precious commodity in sufficient quantities for all our war needs. America has been experimenting since the summer of 1940, Mr. Harriman revealed, and now there is a definite programme for a very large production which will begin to come in this year. Within twelve or eighteen months the United States will be producing enough to supply the total war needs of themselves and Britain. The drawing by Mr. Ashwell Wood reproduced above shows one of the methods by which rubber is produced synthetically—from the "cracking" of petroleum. During this process, a quantity of gas is given off; the hydro-carbon properties of this are first subjected over a catalyst, which changes them into ethylene, propylene, butylene, etc. These are compressed and pass through distilling towers, whereupon they proceed to another catalyst and are reacted upon with metallic sodium to produce pinacone. This latter is diluted with sulphuric acid, heated and compressed at 90 deg. C. The polymerization, as it is called, produces di-methyl butadine, which is similar to isoprene and which constitutes the hydro-carbon material of rubber

SYNTHETIC RUBBER IS COMING SOON

And All Our War Needs will be Met Within Twelve or Eighteen Months, According to Mr. Averell Harriman

NOW that Japan has stretched out her tentacles over the Pacific, the Allied sources of supply of that precious commodity, rubber, shrink.

World production in recent years has reached about 1,500,000 tons; two-thirds of this vast amount was grown in the Malay Archipelago, and will now become available to the enemy, alas! Of the remaining one-third produced elsewhere, transplanted trees, reclamation and the work of the chemists account for supplies.

The extent to which rubber has been applied to industry during the last fifteen years can be seen from the figures which show that, whilst in 1937 1,000,000 tons were manufactured into a great variety of products, ten years previously only 500,000 tons were required to meet world needs. No doubt the motor-car gave tremendous impetus to its use.

It is recorded that Columbus found the South Indians playing with a black ball made from vegetable gum, but it took centuries before civilisation realised the importance of the milky latex, obtained from the fruit and stems of tropical trees. The Amazonian rubber-trees grow to a height of over 70 ft., and as their fruit ripens and explodes, seeds are self-sown up to a distance of 20 yards away.

Had the Brazilian planters been successful in their endeavours, the Amazon valley would have remained the sole source of the world's rubber. But before they could safeguard their precious industry, an Englishman obtained thousands of seeds, returned to his native land and carefully nurtured the tender seedlings in the greenhouses at Kew Gardens.

The young trees that survived this climatic jolt were transplanted to Malaya and the Dutch East Indies, and were the start of the great Far East rubber plantations which have been contributing to the rapid expansion of a vital new industry. By 1934, Brazil, the home of the rubber-tree, was only producing one per cent. of the total world requirements.

So important has rubber become to nations at war that every method for maintaining production is rapidly being explored. A certain amount of rubber has always been obtained from Africa, Ceylon, Burma, and there are still the original Amazonian forests which may be made to step-up production to meet the future needs. American commercial interests realised the importance of Brazil for growing rubber, and millions of trees planted in recent years are due to release their sap to the rubber manufacturers in 1943.

By tapping all sources still available to the United Nations, by cutting down needless luxury manufacture and by salvaging and reclaiming existing stocks, the loss of scorched Malayan plantations must be replaced. Fortunately, however, there is another big potential reservoir, made available by the ceaseless research of the chemists.

Nearly 500,000 tons of synthetic rubber will be made annually when American plants have been completed for its production. Until they are ready experts tell us that stocks are sufficient to carry us along.

Very soon after rubber became a commercial proposition, chemists started to examine it with a view to making a substitute that would be an improvement on the original. During the late nineteenth century, chemists made many attempts to synthesise rubber, and in 1892 Tilden achieved test-tube success.

Tilden's experiments proved the basic hydro-carbon material in rubber was the so-called isoprene. It could be obtained when rubber was heated, but the question that at first puzzled the scientists was how to obtain it from other hydro-carbon substances which were easily obtainable. By carefully analysing the newly-discovered substance, chemists were able to find out that it was obtainable from coal-tar, petroleum, some natural gases and turpentine.

By heating the vapour of these substances, isoprene is formed and can be separated by distilling. Later it was discovered similar substances could be produced during the "cracking" process of petroleum, and it only remained for the experts to devise a means for treating the intermediate substance so that it obtained the chief properties of natural rubber.

Heat, the beneficial rays obtained from sunlight and the action of metallic sodium were the media used for processing the chemist's substitute for natural latex, and a new material similar in many of its properties was ready to leave its laboratory cradle.

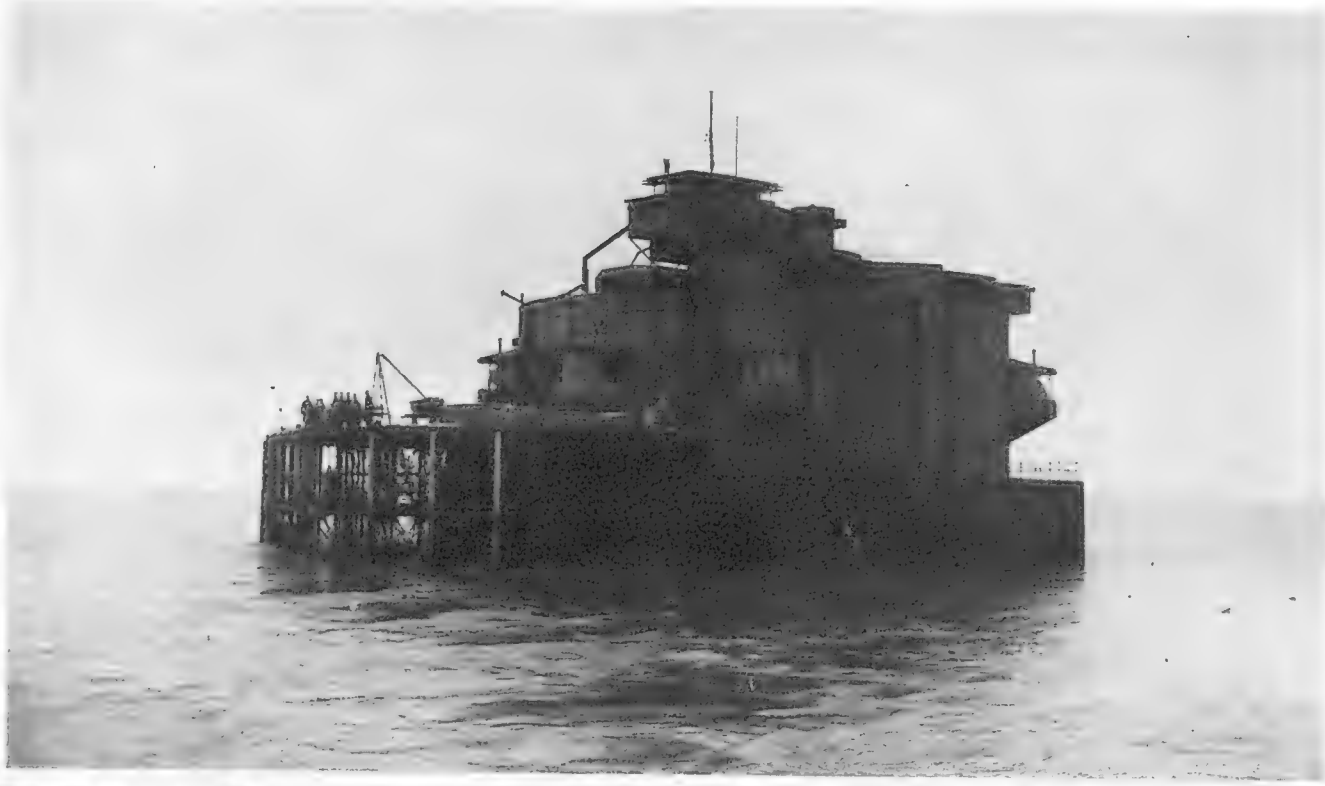
In producing their synthetic rubber, chemists have studied the shortcomings of the natural material, and modern science has been able to make a substitute that is unaffected by sunlight, oil and heat.

FROM WORK IN THE RUBBER PLANTATION TO EVACUATION IN MALAYA: This picture has just come to hand from the Singapore area. It shows a Chinese coolie woman, skilled at transporting buckets of latex at a fast dog-trot from the rubber trees to the factory before coagulation sets in, evacuating her children before the Jap invaders in a like manner. Note the Western-type umbrella, used for protection against the sun!

A FORTRESS in the SEA

One of Britain's Coastal Defences in the North

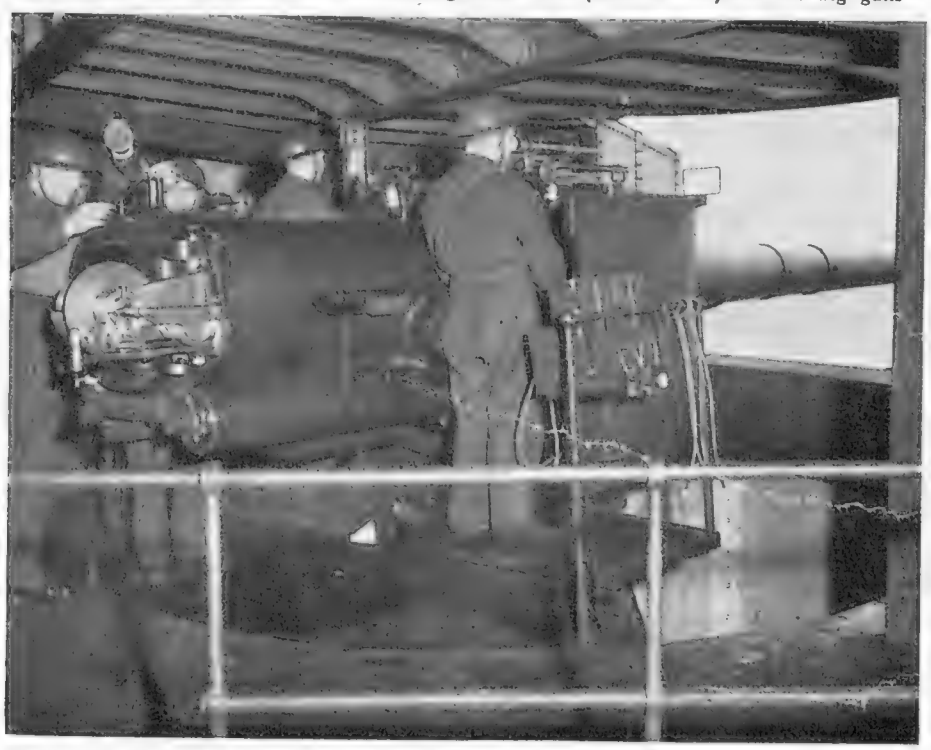
A few miles out to sea "Somewhere in the Northern Command" is an island fortress, manned by batteries of a Royal Artillery Coastal Regiment. Here the garrison receive a rigorous training: their accommodation is somewhat limited, but the food is excellent. The life is rather monotonous, and rough seas often cut off the fort completely from the mainland; but every effort is made to keep the men cheerful, and concerts are often arranged. Contact with the shore, when the weather permits, is by launch



A GENERAL VIEW OF THE HEAVILY ARMOURED SEA FORT, showing members of the garrison lined up on the deck below the searchlight windows; and (top) gun turrets commanding every approach

ON ONE OF THE FORTRESS'S PROJECTING BALCONIES: Men of the garrison engaged in cleaning and maintenance work on one of the searchlights. In the event of an attack these would light up the surrounding waters and point the way for the big guns

THE WAR DEPARTMENT LAUNCH, which conveys rations and mail to the fort, and which also carries men going on leave or returning



LOOKING OUT TO SEA: One of the gun crews at the ready. A never-ending vigil is maintained by the garrison both by day and night

MARCHING ROUND THE "DECK" OF THE FORT: A view which shows the heavily armoured steel superstructure

THE DIVER GOES DOWN TO INSPECT THE DAMAGE TO A CRIPPLED SHIP : A torpedo blew a hole in the after hold, blowing the cargo out of the hatch and flooding the engine-room

SAVING OUR CRIPPLED SHIPS

The Work of British Divers in Salvaging Valuable Vessels and Cargoes Lost at Sea through Enemy Action

Described by CHARLES GRAVES

Ships are Britain's most precious wartime possession. Every damaged ship that can be saved represents a victory over the enemy. British seamen who serve on the rescue tugs are daily risking their lives to bring the cripples home, so that they can be repaired and their cargoes salvaged. Salvage Officers, working under appalling difficulties, are refloating them. If possible, the rescue tugs try to bring the cripple to a quayside, but generally they have to beach her in the harbour mouth, running her on to the sand at high tide. Then the Admiralty Salvage Officer takes over, and his aim is to save as much of the cargo as he can and to patch the ship up sufficiently to tow her to dry-dock for repairs

IN the old days of manual tools, divers had to use the hammer and chisel, the saw or the brace and bit. To-day, new tools are employed. There are pneumatic chisels for cutting rivets ; there are rivet busters and drilling machines. These cut openings to introduce salvage pipes, or to bleed one compartment into the next—in other words, to open them up. Work with hand tools was naturally slow. The clearing of ships' propellers under water when fouled by wires was a difficult job. The latest developments have revolutionised the situation. Take the oxy-hydrogen underwater blow-pipe. By means of this a diver can burn through iron and steel under water with the same facility as if he were on the surface. This blow-pipe is now used on every salvage case where damaged plating has to be cut away under water, and patches have to be fitted. The apparatus is fool-proof. It is also useful for cutting away wires from ships' propellers.

Another useful tool is the underwater bolt-driving gun. This is an appliance whereby a bolt screwed at one end, and with a hardened point at the other, can be driven into steel plates and firmly fixed there in one operation of the gun. This is now used in conjunction with the oxy-hydrogen gear for securing patches over damaged portions of ships.

Diver candidates must be definitely A1 in physique. Even fit men, if they show the slightest traces of fat, are useless. Absolute soundness in lungs, and particularly in ears, is essential ; otherwise the men are not suitable for long periods of immersion. Few people realise that there is a pressure of 14 lb. to the square inch, even at 30 ft. down, and it is not until a depth of 60 ft. is reached that diving is regarded as a deep-water operation. I may say that the record held by divers of the United States is 45 fathoms—in other words, 270 ft. In point of fact, the maximum depth at which useful work can be carried out for a reasonable period (say an hour), is 120 ft.

Before the war, the recovery of the *Laurentic's* and *Egypt's* gold were classic cases of expert diving. In the present war, new problems have to be faced. Thanks to magnetic and acoustic mines, the bottoms of ships are affected as much, or more, than the sides. In the last war, it was the ships' sides which suffered injury from torpedoes or partly submerged mines.

But what happens when a diver is sent down ? Well, he may go down from a dock-side, a staging, a boat or a ship. In any case, a suitable ladder must be firmly rigged-up and things arranged to save him as much climbing as possible when he comes out of the water with his weights on. The pump must be out of the way of the diver and his attendants. It has to be quite rigid in the boat. A stout bench has to be provided for the diver as he puts on his woollen jersey, drawers and long stockings. His diving-dress has to be slightly warmed in cold weather The boots are put on with the buckles outwards. His equipment consists of a corselet, wrist-rings, helmet and knife, not to mention the air-pipe and breast-rope. Then his weights are put on.

Divers are subject to compressed-air illness, asphyxia, damage to the ears, crushing, squeezing and drowning. Most people have heard about the " bends." In common slang it means something approaching delirium tremens. Actually, it is a technical form of discomfort felt by divers, and also air-crews in Flying Fortresses. It is local pain in the arms or legs caused by the liberation of bubbles of gas which may form in any part of the body. Asphyxia is, of course, produced by an insufficiency of air-supply. Injury to the ears is caused by a diver going down with a cold. Crushing or squeezing can be caused by a diver falling. Supposing a diver at work on a stage cleaning a ship's bottom slips off and falls 30 ft. At this depth he has an additional pressure of about 2,000 lb. to every square foot of his body, and yet the pumps will not have had time to raise a corresponding air-pressure in the helmet. As the helmet is rigid, his body will be crushed into it with overwhelming force.

It was Aristotle who first referred to a diving-bell —used by Alexander the Great at the siege of Tyre in 332 B.C. The earliest dependable record of the diving-bell in actual use, however, dates back to 1531, when

PUMPS WORKING AT TOP PRESSURE ABOARD A TORPEDOED MERCHANTMAN

an Italian succeeded in remaining under water for an hour. But the actual forerunner of the modern diving-bell is undoubtedly the apparatus constructed in 1690 by Dr. Edmund Halley, the man who discovered the comet. The greatest expert in the world is undoubtedly our own Sir Robert Davis, who invented the Davis escape apparatus, and is to-day the managing director of Siebe, Gorman and Co. In his classic on deep diving and submarine operations, Sir Robert has a fascinating chapter about diving for treasure. There was the famous galleon sunk in Tobermory Bay; there was the Spanish galleon wrecked off the Bahamas, and salvaged in the seventeenth century (it is said that the Earl of Albemarle's share of the treasure founded the family fortunes). The treasure of *L'Orient*, the treasure of the *Grosvenor*, and the wreck of the *Lutine*, the raising of H.M.S. *Thetis*, the salvage of £700,000 in bullion from the wreck of the *Oceana*, the £5,000,000's worth of gold from the *Laurentic*, the salvage operations of the wreck of the *Egypt*—all provide fascinating stories, but none so exciting as those which are taking place regularly round the coast of Great Britain to-day.

Perhaps the most dramatic salvage of the past was that of the scuttled German Fleet at Scapa Flow. Over 800 patches had to be fixed on the 28,000-ton *Hindenburg* before bringing her up to the surface. The *Moltke*, of 23,000 tons, lay bottom upwards before she was lifted by compressed air. The *Seydlitz*, of 25,000 tons, was also raised by compressed air. Several other ships were afterwards raised.

Among the duties that divers are called upon to do are cleaning ships' bottoms, clearing propellers, examining valves, recovering a ship's anchor, working on wrecks and repairing the copper on a ship's bottom.

A CARGO-BOAT HAS BEEN TORPEDOED: The rescue tugs have towed her in and beached her. Now Commander Vine (Chief Salvage Officer) has repaired the vessel sufficiently to refloat her, and calls a conference of tugboat captains to explain his further plan of campaign

Under the sea the diver can find himself in a number of quandaries. He may lose his distance-line, foul moorings, fall off a ledge of rock, be attacked by sharks, octopuses or giant squids, or find his oxygen supply failing.

To-day, greater depths are obtainable from the use of flexible dress. But the old code of signals from the diver to the attendant still remains. These include:

On breast-rope—
1 pull means - - - "I am all right"
2 pulls mean - - - "Send me a slate"
3 pulls mean - - - "Send me a rope"
4 pulls mean - - - "I am coming up"

On air-pipe—
1 pull means - "Less air" (ease pump)
2 pulls mean - "More air" (heave faster)
3 pulls mean - "Take up slack pipe and breast-rope"
4 pulls mean - "Haul me up"

Working signals, or bells, on breast-rope—
1 bell means - - "Hold on"
2 bells mean - - "Pull up"
3 bells mean - - "Lower"
4 bells mean - - "You are holding me too tightly"

Recently, a slight increase in pay to divers has been announced in the *London Gazette*. They certainly deserve it, don't they?

HE SCENE ON BOARD THE DECK OF A CRIPPLED SHIP DURING SALVAGE OPERATIONS: Part of the vessel's cargo of valuable timber is being saved

ANOTHER TRIUMPH OVER THE ENEMY: A damaged ship has been patched up and has been triumphantly towed into harbour by the rescue tugs. Soon she will once again be helping in defeating the German attempts to strangle Britain

The World of Books—By Vernon Fane

The VOGUE of the AUTHOR-REPORTER

"Inside" Yet Another Continent—More High-Pressure Reporting by John Gunther; Basil Woon Sails into the Battle of the Atlantic; Rumer Godden's Outstanding Novel

IN the days when education was a process as financially selective as the exercise of the vote, it was customary for the well-endowed to embellish the instruction of their young by sending them off on what was known as the Grand Tour. The development of rapid transport and almost instantaneous communications has, in the English-speaking world at least, marched with the spread of education upon a less selective basis. Yet, although people tend to travel more frequently in greater numbers, and further afield, there appears to be no recognisable increase among those who do so for the same motives as inspired their great-great-grandfathers.

A STATUE TO THE FOUNDER OF SINGAPORE IN LONDON: Sir Thomas Stamford Raffles, who died in 1826, was Lieutenant-Governor of Java from 1811 to 1816: he founded the Colony and city of Singapore in 1819. When he died, Sir Thomas Stamford Raffles was forty-six years of age: he was buried in St. Mary's Parish Church at Hendon, where there is a tablet erected to his memory by members of his family. In Hendon Town Hall, nearby, is this replica of the statue which was erected in his honour in Raffles Square, Singapore

It is an important phenomenon of our times that a great deal of attention is paid to superficial and first-hand impressions of almost any happening of importance. The radio commentator, the foreign correspondent, the peripatetic reporter, the man-on-the-spot giving the eye-witness account, is the man whose words are weighed and deliberated in millions of homes and places of public and private discussion. As is natural, these men have developed a technique of their own. It is not enough that they should be good reporters, as indeed most of them are, and that they should record the facts and the happenings as they see them; they must go further, and get what is known as the "inside story."

These books have had an immense vogue, and perhaps the most famous of them was Mr. John Gunther's *Inside Europe*. Nothing succeeds like success, and Mr. Gunther, having established for himself a well-merited reputation in this field, turned his attention to another continent, and, from "inside" Asia, produced a very readable set of impressions of a vast and complex continent, with many equally complex problems. The result was found to be satisfying by a very large number of people, and therefore it was natural that Mr. Gunther should turn his attention to yet another continent, this time South America. Since, however, that continent in itself did not embrace all the races and problems bound up with it, Mr. Gunther very wisely includes the Central American States, as well as Mexico, and

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this publication should not be taken as an indication that they are necessarily available for export

INSIDE LATIN AMERICA (Hamish Hamilton. 12s. 6d.) is the result.

In order to make this very important survey he flew 18,938 miles, visited twenty republics, interviewed seventeen Presidents and eighteen Foreign Ministers, took notes on conversations with 338 people, read masses of books, numerous articles in the weeklies, and all the news from Latin-America in two New York newspapers. This was undoubtedly a prodigious task, and a feat of high-pressure reporting. The author claims that his was "a job of reporting above all."

It took him five months to do it, and there is no doubt but that he brilliantly fulfils his promise to present "a picture of the political situation in each Latin-American country, an appraisal of its personalities and a survey of its more pressing problems."

As is very natural, Mexico is the country with which he deals at greatest length, and which receives the most vivid and sympathetic treatment. For Mexico is politically very close to his own country, and its problems tend there to be better understood than some of those countries which are more remotely inside the Pan-American sphere of influence. The country with which he finds most to join issue is Argentina. Pan-Americanism as practised and preached in the U.S.A. finds not so much favour there as in those Central American countries nearer to the influence of Washington. Here, as elsewhere, Mr. Gunther crosses swords with British interests, British influence and British Imperialism. These forces, he finds, have had a profound influence in developing Argentina, and those responsible "were colonial-minded, Yankee-haters, and the Argentines came to reflect this attitude." It is questionable whether British influence has, in fact, been as strong in that country as he finds it to be, and it is certainly open to debate that those British who have so large a hand in the liberation and subsequent development of Latin-America were consciously hostile to the United States. This book was, of course, written before the United States entered the war, and it may be apposite to point out that in one of his rare excursions in prophecy, Mr. Gunther declares that if his country went to war with Germany, most of the South American States would follow suit. Nevertheless it is fair to point out that in the recent Pan-American Conference, he has been justified by the attitude of the Argentine.

Another excellent feat of reporting, but this time in a more selective and determined field, is

WASTE PAPER FROM A QUEEN

QUEEN MARY'S OLD LETTERS GO FOR SALVAGE: Old letters, records and files belonging to Queen Mary have been turned out at Marlborough House for salvage. Here are Mr. Ernest Varley Jowett, who has been a Queen's Messenger for forty years (on left), and Mr. M. J. Richards, one of the Secretaries, sorting out some of the paper for salvage

WILL YOU FOLLOW QUEEN MARY'S LEAD?

ATLANTIC FRONT, by Basil Woon (Peter Davies. 10s. 6d.). If the Battle of the Atlantic had been a land action, involving the movement of great armies with all the attendant concentration upon feats of arms, it might already have figured in the pages of contemporary history as a great British triumph. But because the field has been so widespread and the individual actions desultory and of necessity enwrapped in secrecy, the achievements of the Royal Navy and of the British Mercantile Marine in this most vital field of action have tended to be taken for granted.

Yet upon this great battle the very life of this country, of the Empire and perhaps of the whole civilised world has depended. It has been a battle between the food and munition convoys and their sea and air escorts on the one hand, and the lurking submarines, sometimes acting singly and sometimes in flocks, the fast, murderous E-boats, dive-bombers and long-range aircraft on the other. Mr. Basil Woon has travelled in these convoys, and has flown above them far out into the Atlantic. He has also visited ports while they were being subjected to a concentrated "blitz." As is natural, the author cannot praise too highly the men of the Mercantile Marine, who go about their daily business with such courage, determination and in such good heart. In one interesting section of the book he goes pretty thoroughly into the theories of convoys, quoting many experts, and advancing various sets of opinions.

It is a vivid, brilliant and exciting book, enlivened by the author's own buoyant personality and humour, well documented and quite excitingly illustrated by Lieutenant Sotheby Pitcher, R.N.V.R.

My only novel this week is an outstanding one, **BREAKFAST WITH THE NIKOLIDES**, by Rumer Godden (Peter Davies. 7s. 6d.). Readers of Miss Godden's *Black Narcissus* will not need to be reminded of this author's subtle and sensitive style, nor of her ability to create pliant character and vivid atmosphere with an economy of action

The breakfast to which the title refers is quite a small event in the lives of Charles Pool, his wife Louise, and their two children, Emily and Binnie. Yet its significance pervades the whole story. Nor may it seem very important that the little spaniel which Charles Pool had given to his daughter Emily, despite the opposition of Louise, is due to be destroyed under the suspicion of having contracted rabies. Yet there is a whole wealth of implication in this small happening. Charles is an instructor in agriculture at a small Bengal town. His wife, from whom he had been estranged, returns to him because she is forced to seek refuge from a war-torn Europe. Woven into their story are the equally dominant affairs of Narayan, a Bengali veterinary surgeon, and his pampered young friend Anil, a Brahmin student.

None of the things which happen to the people in this small community appear superficially to be of great consequence, yet their story, as Miss Godden unfolds it, is, by implication, pregnant with profound racial and human problems Miss Godden goes very deep into the well-springs of human conduct, and by almost imperceptible means and with great artistry brings her characters and her story into the disturbing focus of problems which go far beyond the compass of the individual action of any of her characters. It is the kind of novel which one puts down with the feeling that one has encountered a great experience. It is the kind of book which we know we shall read again, and then perhaps again.

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MONDAY morning, January 19, was a very cheerful one in the office of this Society, for on opening the post it was found that a kind supporter, in addition to her yearly subscription, had sent an additional cheque for 100 guineas towards the new London Hostel it is hoped to acquire in place of the present old one to commemorate the Society's Centenary on St. George's Day, 1943. This gift was all the more surprising as it was known that this lady had been "bombed out" of her London home. Would any other subscriber like to send such a gift or according to what he or she can spare, to add to this initial gift for such purpose? Please address 164, Shaftesbury Avenue, London, W.C.2.

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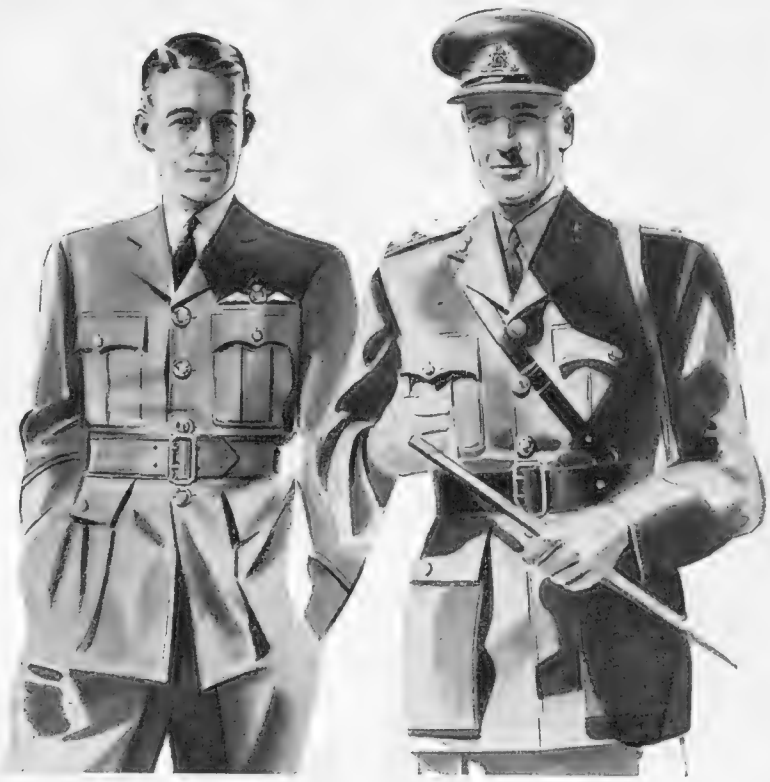

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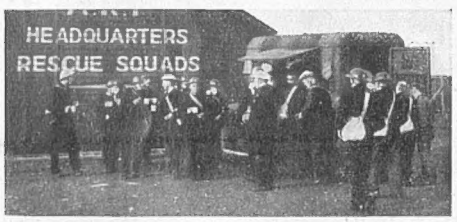

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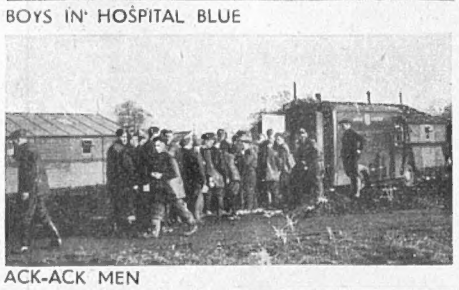

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